

NEWS ANALYSIS

Future unclear for tardy Apple server

By Robert Hess

It has been almost two years since Apple first started quietly discussing plans for a new line of file and application servers. Over time, though, its complex strategy

may have become a victim of Apple's enthusiasm to be all things to all users.

On the software side, sources said, the company planned to sup-

See Server, Page 94

New hardware serves questionable purposes

While Apple had at one time big hopes for its new Shiner server, it is now rethinking the strategy.

ISSUE	WHY IT IS A PROBLEM
Shiner is new hardware	Expensive to produce and difficult to support
Shiner uses new software	Difficult to support and unfamiliar to users
NetWare for PowerPC performance disappointing	Intel's servers are almost as fast
A faster AppleShare is coming	AppleShare can be made fast enough for many users on today's Macs
CHRP is nearly done	Will customers skip Shiner for CHRP?

VST to deck out new PBs: Modem, drives, AC plug

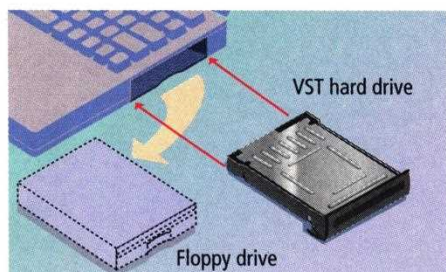
By James Staten

While the PowerPC-based PowerBooks may be in short supply when they ship next month, accessories for them will be numerous. According to sources,

VST Power Systems Inc. is preparing to ship several add-ons for the portables, including a wireless modem, a battery charger, a power adapter and hot-swappable hard drives.

Sources said all VST's products are expected to arrive at the same time as the PowerBook 5300 series, which will be unveiled next week but won't ship until Sept. 11 (see MacWEEK, July 31, Page 1).

See VST, Page 96



Lack of new PCI Macs pinned on chip drought

Two-month wait for latest models

By Jon Swartz and Andrew Gore
Murphy's Unwritten Law: The availability of new Mac products is inversely proportional to how badly Mac users want them.

Supplies of the hot new PCI-based Macs—the 7200/75, 7200/90, 7500/100, 8500/120, 9500/120 and 9500/132—are as short as the patience of some buyers who are combing store shelves for the machines. Meanwhile, forecasts for some future models also indicate that availability may be limited.

MacWEEK contacted eight computer stores before it could find a 7500 machine; supply constraints on the 7500, 8500 and

9500 are "as bad as the [Power Mac] 8100 back order" glut this year, said one dealer who requested anonymity.

Apple has blamed previous shortages on limited supplies of components such as CD-ROM drives. However, this time around, a shortage of PowerPC chips is reportedly causing production to fall behind demand.

Last week Motorola Inc. confirmed that supplies of the 604 chip, used in the 8500 and 9500 machines, are "constrained." A spokeswoman for the Schaumburg, Ill.-based chip maker said the 604 is the only CPU in short supply and that once the company's MOS-13 manufacturing plant in Austin, Texas, ramps up this January, 604s should cease to be a gating factor on Power Mac production.

Despite Motorola's claims that the 601 and 603e are available in good supply, industry sources tell

a different story. Sources said that while the 604 is the hardest chip to get, even the 601 can be hard to come by because of high demand for 601-based machines such as the 7200 and 7500. This has reportedly forced distributors to tell dealers that there will likely be a two- to four-month wait on new Power Macs.

See Availability, Page 96

Power Mac availability

	Limited	Unavailable
MODEL		
Power Mac 7200/75	●	
Power Mac 7200/90	●	
Power Mac 7500/100		●
Power Mac 8500/120		●
Power Mac 9500/120		●
Power Mac 9500/132		●

Note: As of Aug. 17. Source: Apple distributors.

FIRST LOOK

Win 95 poses problem for IS integration

In Part 3 of a three-part series, MacWEEK examines the overall lessons of Windows 95 for Mac managers at multiplatform sites.

By Stephen Howard

By striving to move the Intel-standard PC world toward a 32-bit operating system, new 32-bit applications and friendlier hardware standards, Microsoft Corp. can be compared to a person trying to kick a dead whale down the beach. What's amazing is that with Windows 95, the whale moved.

The new PC OS due this week shows a first-class graphical user interface, and its networking and

See Windows 95, Page 94

Acrobat learns new tricks

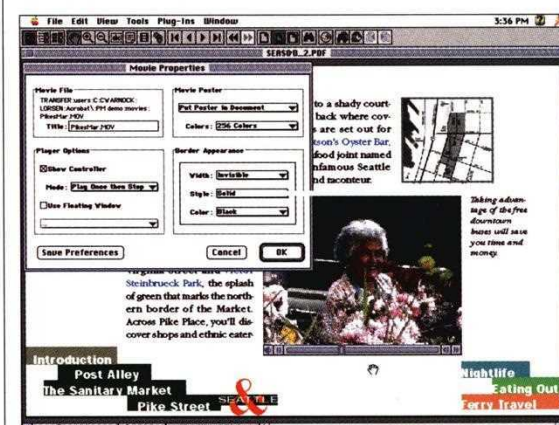
By Cate C. Corcoran

As part of continuing efforts to make its Portable Document Format a standard for electronic documents, Adobe Systems Inc. last week announced an upgrade to its Acrobat family of cross-platform

electronic publishing tools.

The Version 2.1 products, which emphasize Internet distribution, multimedia and cross-platform functionality, are slated to ship in September.

See Acrobat, Page 96



Acrobat 2.1, slated to ship in September, includes a plug-in for adding digital video and sound to PDF files.



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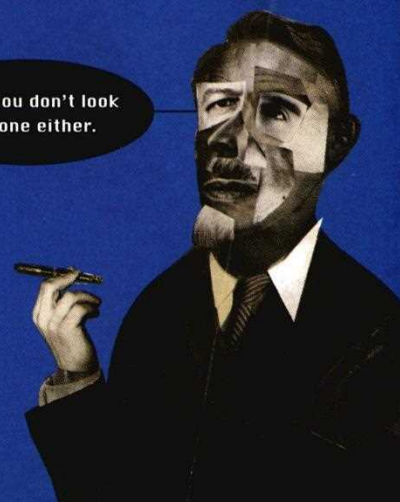
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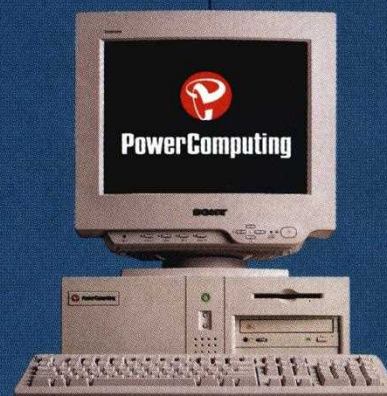
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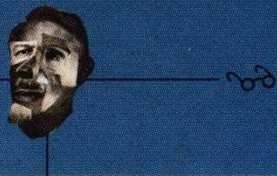
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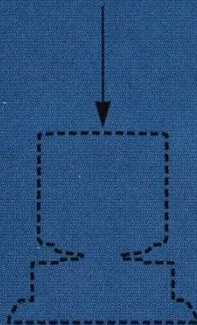
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4 UP FRONT

MacIS sounds off to Apple • New CAD program builds on QuickDraw 3D

6 NEWS

ArcView maps on Mac • MailKeeper puts users' fingers on data • Petite Casio camera sports swivel lens • usrEZ speeds DES

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QuickDraw 3D hits the streets • As the 3D World turns • MPEG encoding on the Mac • Tracer converts bit maps to Beziers

22 GATEWAYS

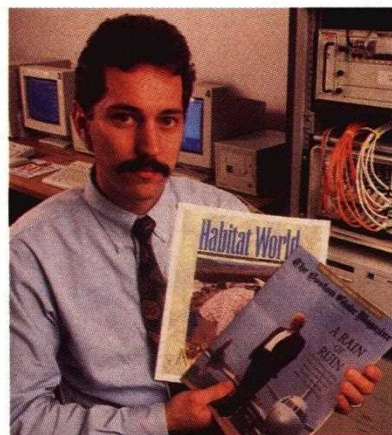
Open Transport gets an update • Wall Data enhances emulators • PC cards make debut • Grand readies new switches

30 BUSINESS

Netscape's monster IPO • Eilers grilled at Macworld • Apple USA president speaks



Microsoft's bundling of Microsoft Network with Windows 95 is pushing other on-line services to improve offerings. See Gateways, Page 22.



A printing company that resorted to "sneakernet" to transfer large image files finds a new networking system. See Problem Solving, Page 55.



Non-real-time MPEG encoding on the Mac is getting much less expensive, thanks to new techniques. See GA, Page 16.

41 REVIEWS

Macromedia Authorware 3.0 • Claris EMailer 1.0 • Fargo Electronics FotoFUN! • In Brief: Andromeda Series 3 Screens Filter 1.2, La Cie VIP Scan 2.0, Waves Q2 1.1

53 SOLUTIONS

HTML editors are evolving into more familiar WYSIWYG editors. • Problem Solving: Quebecor Printing's new networking system speeds large-image file transfers.

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MACWEEK INSIDER ANDREW GORE

Save the spotted Internet

I'm really beginning to think we need a grass-roots movement to protect the Internet from unscrupulous corporate predators such as Microsoft Corp. We could all start wearing "Save the Internet" buttons, put "Boycott MSN" on the bumpers of our VW buses and get the information superhighway on the endangered species list right up there with the snow leopard and the spotted owl.

We could even buy an old Russian fishing trawler, rename it The Rainbow Router and sail up to the Pike Street Market to block shipments of Windows 95 leaving Puget Sound. More than just a major new chapter of the Sierra Club, anti-Microsoft Network efforts could become a movement that takes to the streets: "Hell no, we won't pay Microsoft a huge premium for the privilege of accessing something we can access free today!" OK, it needs some refinement, but you get the idea.

I'm just kidding (well, mostly

kidding). However, I do find it ironic that, just when Apple is opening up the Macintosh market by licensing the Mac OS, the paragon of open systems is on the verge of making proprietary that most open of platforms — the Internet.

Of course, it's easy to be open when you "borrow" your best ideas. With MSN, Microsoft has astutely identified another opportunity to make oodles of cash off others' inspiration.

As described in James Staten's Focus On story about on-line services this week (see Page 22), the major on-line services are already rallying to combat MSN's very significant threat to their businesses. However, I'm more concerned about what could happen to the Internet now that MSN will be integrated into every copy of Windows 95. There's a real possibility that in a few years, not only will Microsoft have constructed toll booths on 85 percent of the on ramps to the information super-

highway, it will own the on ramps as well.

Imagine the possibilities once Microsoft is in a position to start filtering what most people see on the Web. Could Bill Gates and Sen. J.J. Exon (D.-Neb.) be politics' next strange bedfellows?

The Internet could be the most important communications technology since moveable type, but only if it's allowed to continue to evolve along its current path. The Net is a huge concatenation of ideas, ideals and interests from the blatantly commercial to the wildly anarchistic to the downright bizarre. It is precisely this data diversity — the fact that almost anyone with a computer and a modem can become part of the Internet ecosystem — that makes it so compelling and potentially powerful.

I'm disgusted that the Department of Justice is doing nothing to prevent personal computing's almost-monopoly from getting a similar stranglehold on such a critical infrastructure. According to the Justice Department, there just wasn't enough time to complete its investigation before Windows 95 shipped. But once MSN is out, it's going to be the proverbial

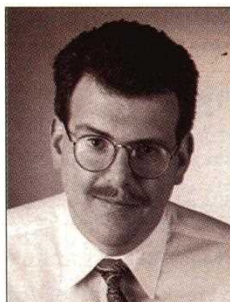
closing of the barn door after the horse has escaped — and started a family.

The Internet draws its power from the fact that no single interest controls it. U.S. Senate morality legislation notwithstanding, the Web is the only medium of unlimited free speech the world has ever had. And in some other, less-enlightened places, it may well be the only taste of freedom citizens of certain countries will ever have.

On second thought, maybe it's not such a bad idea to put the Internet on the endangered species list. At the very least, it should be declared a global resource and, like Antarctica, be placed under international protection. Some things transcend national and commercial interests; the Internet is too important and too open to exploitation for any single entity to gain control over it now or in the future. □

Andrew Gore is MacWEEK's executive editor/news and stores his exploitation-free surfboard at Andy_Gore@macweek.ziff.com. If you've got something to add to this debate, you might want to e-mail your comments before the MSN surcharge kicks in.

The Internet draws its power from the fact that no single interest controls it.



MacIS' top 10 wish list

Managers call for more networking

By Jon Swartz

Networking concerns were pre-dominant as MacIS managers hammered out a top 10 wish list for Apple at its semiannual meeting, held this month in Lansdowne, Va.

Networking was mentioned in more than half of the organization's requests as attendees spent most of the four-day technical conference urging Apple to shore up network security and administration. MacIS Executive Director Bill Monteith said Apple should

provide a single log-on to network services, such as AppleShare and Apple Remote Access, and it should offer centralized auditing tools.

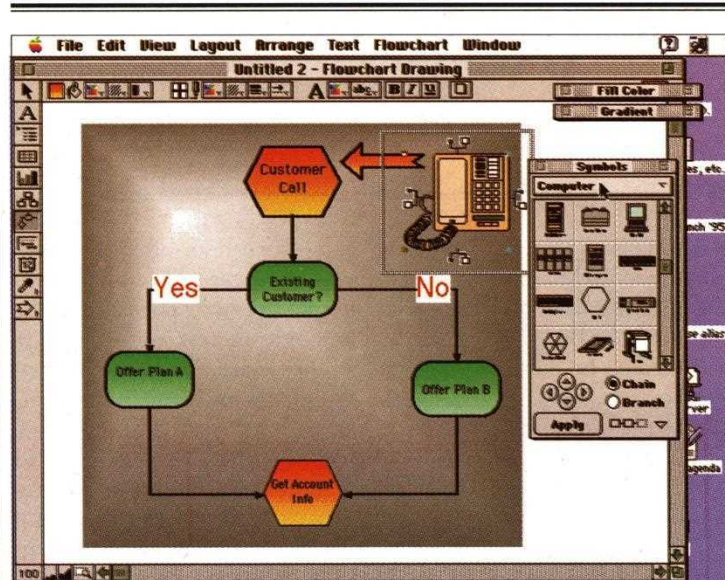
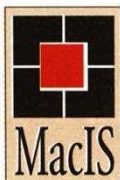
Members asked Apple to make several improvements to MacTCP and AppleTalk, including a multihoming option that would let users print over LocalTalk while connected concurrently to Internet Protocol EtherTalk.

Another hot topic involved Apple's support of emerging network technologies. The group said it wants Apple to tout wireless communications and support ISDN (Integrated Services Digital Network). Members also requested

statements covering Apple's future directions for high-bandwidth networks and digital video on networks.

Among its other requests, MacIS asked that Apple aggressively seed developers with Copland, improve enterprise software distribution, evangelize OpenDoc to developers and users, and provide remote administration for AppleShare servers.

The Mason, Ohio-based group also had some suggestions for Claris Corp. of Santa Clara, Calif. It wants Apple's software subsidiary to provide SQL back-end support for FileMaker Pro, improve cross-platform interapplication communications and beef up the spreadsheet capabilities in ClarisWorks. MacIS said its next conference is slated for spring 1996 in the San Francisco Bay area. □



ClarisImpact 2.0 offers templates that can be supplemented with libraries of symbols and clip art for charts, presentations and time lines.

Claris makes new Impact

By Cate C. Corcoran

In the words of one beta user, Claris Corp. last week made creating presentations, organizational charts and simple graphics a "no-brainer" when it shipped ClarisImpact 2.0.

The \$129 application, available in Power Mac, 680x0 and Windows versions, now generates a cross-platform file format and includes additional templates, more than 50 transitional effects, a speaker's notes function, and links between external spreadsheet data and ClarisImpact charts.

Beta user Kevin Conniff, art

director at Hughes Information Technology Corp. of Landover, Md., said, "Being able to use predefined templates really helps people who don't have graphic backgrounds do presentations on the fly and go cross-platform to get it reviewed by someone on another platform."

Upgrades from ClarisImpact 1.0 are \$59; a competitive upgrade from other graphics products, as well as upgrades from FileMaker Pro and ClarisWorks, are \$69 each.

Claris Corp. of Santa Clara, Calif., can be reached at (408) 727-8227 or (800) 544-8554; info@claris.com. □

QD3D foundation of DesignWorkshop 2.0

By Carolyn Said

Artifice Inc. is building on QuickDraw 3D for a new version of DesignWorkshop, its 3-D architectural modeling software.

DesignWorkshop 2.0, which the company will ship by year-end for \$895, will use QuickDraw 3D's built-in renderer to provide real-time perspective modeling of texture-mapped architectural spaces, as well as direct manipulation of light sources in real time.

Support for 3DMF (3-D metafile format) will allow users to move data-rich models easily among both 2-D and 3-D programs, Artifice said. The company said it will also provide translator plug-ins to import and export files from programs that don't support 3DMF.

DesignWorkshop 2.0 will be able to take advantage of QuickDraw 3D hardware acceleration.

Other new features will include manipulation and rendering of free-form spline surfaces and traditional Boolean operations. Newly streamlined data structures will allow efficient use of very large, complex models, Artifice said.

QuickDraw 3D requires a Power Mac and 16 Mbytes of RAM. Artifice said it will continue to support Version 1.1, its existing 680x0 version, as well as Version 1.2, its current Power Mac version, for users who don't have QuickDraw 3D. Upgrade pricing has not been set.

Artifice Inc. of Eugene, Ore., is at (503) 345-7421; fax (503) 346-0872; artifice@artifice.com. □

Utilities ease Mac file transfers

By David Morgenstern

Windows users can more easily handle Mac files with the help of new utilities from DataViz Inc. and Aladdin Systems Inc.

DataViz in September is slated to release MacOpener, a \$75 file-exchange program for Windows 3.1 and Windows 95.

The program will let users read and write Mac-formatted floppies and SCSI devices such as CD-ROM, SyQuest-compatible, magneto-optical and Iomega Corp.'s Zip hard drives. It will also format floppies, DataViz said.

MacOpener will offer much of the data in the Finder's List view, DataViz said, and will let users preview text as well as PICT and EPS images. The software will support long file names under Windows 95 and shorten Mac file names automatically under Windows 3.1. It will also append file-type extensions to a name.

Aladdin this month released a free Windows version of StuffIt Expander, its file-compression utility.

Aimed at cross-platform file exchanges over the Internet, the software handles most common compression formats, including StuffIt, Zip, Arc, Arj, gzip and uuencoded attachments. It also

handles BinHex and MacBinary formats as well as self-extracting StuffIt, Zip and Arj archives.

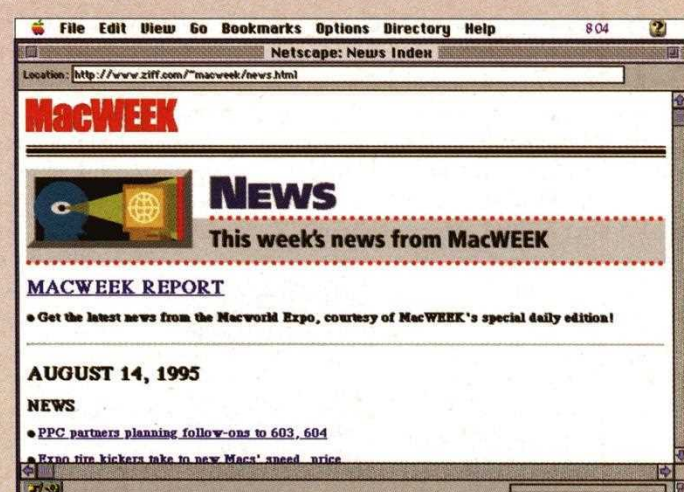
The program can be set to monitor a directory and expand new files automatically, Aladdin said.

The software is available via FTP at ftp://ftp.aladdinsys.com/.

DataViz Inc. of Trumbull, Conn., can be reached at (203) 268-0030 or (800) 733-0030; fax (203) 268-4345.

Aladdin Systems Inc. of Watsonville, Calif., can be reached at (408) 761-6200; fax (408) 761-6206; aladdin@aol.com. □

MACWEEK ON-LINE TO COVER WEBEDGE



James Staten, MacWEEK associate editor/on-line, will be filing live reports all this week from WebEdge II: The 2nd Macintosh World-Wide Web Conference being held in Austin, Texas. His reports can be read Monday through Thursday on the MacWEEK sites on CompuServe, (go: macweek), eWorld (shortcut: macweek) and on the Web (<http://www.zdnet.com/~macweek/>).

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ArcView moves to Mac

App performs mapping, GIS

By David Morgenstern

Environmental Systems Research Institute Inc. has charted a new path this month with the release of ArcView 2.1, a Mac version of its cross-platform integrated mapping and GIS application.

The \$995 package lets users create multilayered maps and associate data with graphical elements. It provides tools to query the database quickly and analyze and present the results.

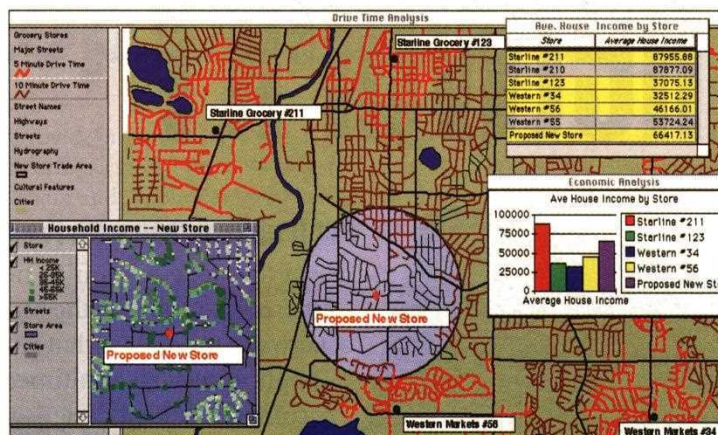
ArcView 2.1 comes in a fat-binary version for 68040 and Power Macs; other versions run on Unix workstations and Windows machines. The software also functions as a client for ESRI's Arc/Info GIS, or Geographic Information Systems, software package.

Users can import PICT, Illustrator or EPS images and overlay them with graphical objects, icons and symbols that represent geographic, industrial and demographic data. Unlike the Windows version, the Mac software cannot import DWG and DXF (Drawing Interchange File) CAD files. ArcView's tool palettes contain most common map symbols, and users can build their own or add items from TrueType symbol fonts.

ArcView 2.1 creates a database file linked to each graphical object; the elements can contain a preset value or be assigned attributes from existing database files.

After users select areas on the map and search the relational database, the program can present the results via text, graphs or charts. It can also play QuickTime files.

"The Mac version is more flexible for presentations," said beta tester Walter Bremer, head of the landscape architecture department at California Polytechnic State University, San Luis Obispo. Bremer said he is working on custom interfaces to regional databases for use in local libraries. "ArcView lets anyone do analysis that tradition-



After drawing a circle on a proposed store, ArcView 2.1 presents income levels of households in the area and compares the site with stores in the region.

ally took a lot of training in GIS."

ArcView 2.1 ships with Avenue, ESRI's object-oriented scripting language, which lets users customize all interface elements, including menu items and tool palettes; it comes with nearly 100 scripts. It also supports Apple-events scripting and includes sample data sets, such as

five-digit postal ZIP codes.

The '040 version requires 12 Mbytes of RAM and an FPU (floating-point unit); the Power Mac version needs 14 Mbytes.

Environmental Systems Research Institute Inc. of Redlands, Calif., can be reached at (909) 793-2853 or (800) 447-9778; fax (909) 793-5953; info@esri.com. □

Trio of companies usher in monitors

By James Staten

Users seeking a large display to go with their new PCI-based Power Mac can now look to the latest offerings from Nanao USA Corp., Smile International Inc. and ViewSonic Corp.

All three companies' devices come with a tilt-and-swivel base; anti-glare and anti-reflection coating; and controls for adjusting brightness, contrast, size, position, rotation, convergence and trapezoid. Each is covered by a three-year warranty.

► Nanao is now shipping the FlexScan T2•20 and T2•17, priced at \$2,163 and \$1,380, respectively. The T2•20 houses a 20-inch Sony tube with a 19.1-inch image area and a 0.3mm aperture grille.

The T2•17 uses a 17-inch tube with a 16-inch image area and a 0.25mm aperture grille. Both dis-

plays have on-screen controls for display settings and a maximum Macintosh resolution of 1,280 by 1,024 pixels; both include a universal Mac cable that lets users switch between resolutions on the fly.

Through Nov. 30, both monitors are available with Berkeley Systems Inc.'s After Dark with Ecology screen saver and Sonnetech Ltd.'s Colorific color-calibration application, which supports ColorSync 2.0.

The two displays comply with the strict Swedish TCO'92 standard for electromagnetic emissions and power consumption.

Nanao also shipped its \$300 FlexColor colorimeter for use with the two displays and the Colorific software.

► Smile this month will ship the CB-1716CL, priced at \$795. This unit houses a 17-inch Hitachi flat square tube with a 15.75-inch image area and 0.28mm dot pitch. It has an Invar shadow mask and offers a maximum Mac resolution of 832 by 624 pixels. The CB-1716CL complies with both the Energy Star and MPR II standards but not TCO'92. Display settings can be adjusted using a front-positioned LCD control panel.

► ViewSonic has updated its 21PS 21-inch display to make it compliant with the TCO'92 standard and will ship the new version this month. Still called the 21PS and priced at \$2,095 — \$100 higher than the original version — the unit uses a Matsushita flat square tube with a 19.7-inch image area. It features a 0.25mm dot pitch and displays Mac images at a maximum resolution of 1,280 by 1,024 pixels.

The 21PS also features an Advanced Invar shadow mask, on-screen controls and twin connectors allowing users to switch between two simultaneously connected video input sources.

Nanao USA Corp. of Torrance, Calif., can be reached at (310) 325-5202 or (800) 800-5202; fax (310) 530-1679; fax-back (800) 416-3539; http://www.traveller.com/nanao/.

Smile International Inc. of Costa Mesa, Calif., can be reached at (714) 546-0336 or (800) 253-2872; fax (714) 546-0315.

ViewSonic Corp. of Walnut, Calif., can be reached at (909) 869-7976 or (800) 888-8583; fax (909) 468-3756. □

Day-Timer PIM to cross platforms

By James Staten

Professionals who still manage their day's activities with a paper-based organizer are about to receive another incentive to go digital. Day-Timers Inc., working with Kensington Microware Ltd. through Day-Timer Technologies, next month will ship a Mac version of its network-ready personal information manager.

Day-Timer Organizer 2.0 for the Mac will combine an events calendar with alarms, to-do list, notes manager, address book and expense manager. The company will also offer a client-server solution, Day-Timer Organizer for Networks.

Day-Timer's interface will mimic its paper counterpart and include customization features for resizable windows, fields, notes for each event and contact, drag-and-drop rescheduling, and contact-to-event linking.

Day-Timer Organizer for Networks will let workgroups share calendar and contact lists on a per-item basis and schedule group events.

Users of both the Mac and Windows versions will be able to access servers on either platform, the company said. The software will run on Novell NetWare 2.15 or higher, NetWare Lite, Banyan

Vines, or AppleTalk. The network version will have a logical limit of 720 users per database. Both events and contacts will be stored in a single file that is limited to 500,000 records.

The application will also provide a built-in messaging engine for sending meeting invitations and exchanging notes.

Day-Timer Organizer will provide users with 12 customizable fields per event or contact. Each contact will include six telephone-number fields along with two address and four e-mail slots.

Day-Timer said the application will boast special printing features to help users print to paper organizers. It will ask them to run a test page and then output detailed instructions based on the printer and setup.

It will provide layouts for most

popular paper organizers and labels and let users create custom layouts. For international addresses, custom layouts will rearrange the ZIP code, state and country fields according to the regional style.

The expense organizer will provide 14 customizable fields in addition to the standard description, cost, category and mileage fields. Expenses can be grouped in categories and exported to a spreadsheet via tab-delimited text format.

The single-user version of Day-Timer Organizer will cost \$59.95. Day-Timer Organizer for Networks will be priced from \$119.90 for a two-user version to \$525 for a 10-user license. Fifty-user licenses will be \$2,295.

Day-Timer Technologies of San Mateo, Calif., is at (415) 572-6260 or (800) 225-5005; fax (415) 572-9675; sales@dt.daytimer.com. □

Day-Timer Organizer maintains contact information through 12 customizable fields, and it offers six telephone number, two address and four e-mail listings.

For the record

The July 31 story about Adaptive Solutions Inc.'s PowerShop (Page 10) should have said that the card increases the speed of a Gaussian blur twentyfold on a 16-Mbyte image.

At four different buildings in the Hollywood hills, the American Film Institute depends on QuickMail™ to communicate across the hall and around the world.

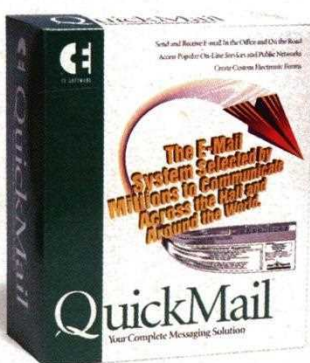
The choice was a simple one to make.

For eight straight years, QuickMail has maintained its leadership

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*"I deal with a lot of high-end software for the Mac, but nothing has the impact of QuickMail ... it brings people together."
Bob Flickinger at the American Film Institute keeps his users, including some of Hollywood's biggest hotshots, connected with QuickMail.*

QuickMail 3.5
THE STANDARD IN MAC OS MESSAGING

Could
the road
to the
corner office
be simply
a matter of
what you
drive?



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4X CD-ROM Drive Kit (CSD-760E)
Includes ATAPI Interface/Controller

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Nisus' MailKeeper rounds up Mac info

By Nathalie Welch

Helping users get it all together and keep it all together, Nisus Software Inc. this month released its MailKeeper data-management application. The company also delivered a Power Mac-native version of Nisus Writer.

Released at this month's Macworld Expo in Boston, the \$39.95 MailKeeper employs the company's Guided Information Access technology to capture, store and retrieve information.

The software lets users grab selected text with an Fkey. MailKeeper stores notes, which are created when text is captured. It can also store e-mail as a special type of note and extract electronic addresses automatically. MailKeeper recognizes address formats from America Online, AppleLink, CompuServe, eWorld, the Internet and URLs (universal resource locators).

MailKeeper categorizes the captured information automatically, Nisus said, and it can find items by searching text or using date criteria. Support for the Macintosh Drag Manager lets users drag text into and

out of MailKeeper for easy message addressing.

"I have three different on-line services, and I have tried to use PowerTalk and the Universal Mailbox, but it is just not quite there yet," said beta tester Theodore Lanes, vice president of technology at MarketForce Inc. of Sherman Oaks, Calif. "Anytime I see a piece of mail I think is interesting I can hot-key it right into MailKeeper, categorize it on the fly and search for it later."

On the word processing front, Nisus this month also delivered a Power Mac version of Nisus Writer. While it includes no new features, Version 4.1 offers a threefold speed improvement, according to the company.

Starting at \$319, the package includes translators for a variety of file formats. Version 4.0 users can upgrade free; users of competing Mac word processors can upgrade to Nisus Writer 4.1 for \$149.

Nisus Software Inc. of Solana Beach, Calif., can be reached at (619) 481-1477; fax (619) 481-6154; info@nisus-soft.com. □

Entrust 1.2 locks in data

Security system spans platforms

By Nathalie Welch

Northern Telecom Inc., now doing business as Nortel, last month expanded its scalable data-security system for Windows users to cover both Mac and Unix clients.

Available now, Entrust 1.2 supports clients running on the Mac's System 7.1 and System 7.5; compatible Unix client platforms include Hewlett-Packard UX 9.03, SunOS 1.1.3 and Solaris 2.4. Earlier versions offered only client packages for Windows 3.1 users.

Entrust supports a variety of digital-signature options, including RSA public key and the Digital Signature Algorithm/Secure Hash Algorithm. To ward off unwanted access to files, the system also provides the Data Encryption Algorithm and Nortel's proprietary CAST

technology, according to the company.

Christopher Church, president of SquareOne Solutions Inc. of Hobe Sound, Fla., who tested the Lite package, said: "Customers we have looking for a cross-platform encryption and digital-signature solution can't use Apple's DigiSign, which also doesn't provide a management infrastructure."

"The area where Nortel adds value is in centralized management of encryption and digital-signature operations," he said.

For small groups of up to 100 users, the stand-alone Entrust/Lite starts at \$2,995 and includes 20 clients. For larger companies that want to add X.500 directory services, the Unix-based Entrust/Server is \$2,000 and the Entrust/X.500 Directory is \$5,000. The Entrust/Manager, used to populate the directory, is \$4,000, while



Entrust lets Mac and Unix clients use several file-encryption and digital-signature algorithms.

clients start at \$159 per user.

The company last month also delivered two versions of the software that can be exported for use in other countries: Entrust International and Entrust International Financial. Both maintain seamless interoperability with the domestic versions and follow the same pricing conventions, according to the company.

Nortel's Secure Networks Group of Ottawa can be reached at (613) 765-5607; fax (613) 599-6881. □

Chips boost entry-level printers to 1,200 dpi

By David Morgenstern

Developers of printer-engine controllers recently announced new chips that will boost resolution, reduce memory requirements, and expand features for both high-end and entry-level printers.

DP-Tek Development Co. of Wichita, Kan., this week will unveil new low-cost chips incorporating its patented TrueRes resolution-doubling technology. The company said that several manufacturers will use the chips

early next year to offer \$500 black-and-white laser printers with resolutions up to 1,200 by 1,200 dpi.

TrueRes technology lets vendors increase resolution relatively inexpensively by changing the controller firmware, DP-Tek said; it relieves vendors of the costly engineering and production tasks required to fine-tune their printers' hardware.

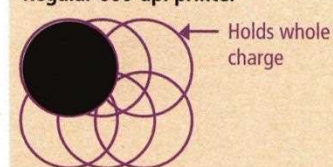
Instead of generating fully charged spots on the printer drum, TrueRes creates a series of spots, none of which is capable of attracting toner particles individually. Only the smaller areas where many spots intersect collect enough charge to hold the toner, doubling the vertical and horizontal resolution of a printer engine, DP-Tek said.

The company's new \$10 LC13 chip is designed for printers with speeds of up to 6 pages per minute; the \$20 HS25 chip works with high-speed printers capable of up to 30 ppm. DP-Tek said 20 companies have licensed its technology, including Xerox Corp., Digital Equipment Corp., Data-products Corp. and GCC Technologies Inc.

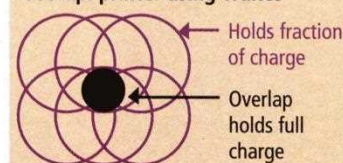
In related news, Peerless Systems Corp. of El Segundo, Calif., recently introduced its 33-MHz

TrueRes in action

Regular 600-dpi printer



600-dpi printer using TrueRes



TrueRes boosts the resolution of a laser engine by laying down a series of low-charged dots. Only the small overlapping area packs enough charge to hold the toner.

QuickPrint chip to the OEM market. The chip supports 1,200-dpi printing at speeds of up to 24 ppm.

In addition to speed, QuickPrint requires only 4 Mbytes of RAM to print a 1,200-dpi page; most printers require 18 to 20 Mbytes of RAM for high-resolution printing, Peerless said.

The chip also integrates memory, I/O and video functions that can reduce costs to OEM customers, the company said. □

Opti-Safe line keeps Macs up and running

By Felicity O'Meara

Keeping the home fires burning, Optiquist Inc. this month introduced Mac software for the company's Opti-UPS E series of uninterruptible power supplies. The serial devices protect computers from blackouts and brownouts, surges, noise, and other power interruptions, Optiquist said.

The \$99 Opti-Safe software warns users when power fails and posts a message and countdown timer on-screen that gives them a few minutes to save files and shut down. If the Mac has been left unattended, Opti-Safe automati-

cally saves open files, closes applications and shuts down the system when the time has expired.

Users can extensively customize the software to display power-supply data graphically and set the countdown time within parameters limited by the system's electrical requirements. The software also maintains a complete log of power fluctuations, enabling users to track brownouts and other power problems.

The Opti-UPS E series comprises three models: the \$139 UPS-280E, the \$199 UPS-420E

and the \$299 UPS-650E. All three offer "buck-and-boost" line conditioning, which stabilizes voltage during power fluctuations, as well as line-noise filtering, and lightning and surge protection. Length of support from each UPS depends on the Mac model and peripherals connected to a system; the top-of-the-line 650E supports a Quadra 700 and a 21-inch color monitor for about 11 minutes, the company said.

Optiquist Inc. of Walnut, Calif., can be reached at (909) 869-7976 or (800) 843-6784; fax (909) 869-3756. □

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The BLUE Line is an advanced storage architecture that goes beyond the current paradigm for storage design. Each component is engineered for the rigors of a graphics or digital video production environment. Attention is given to every detail that maximizes SCSI stability and data throughput.

Build with BLUE! Protection investment is the cornerstone of our offering. BLUE can begin with a single drive and evolve into a complete system of fixed, removable, and DAT tape devices. To increase your productivity add our PCI or NuBus accelerators and state-of-the-art RAID 0 and 1 solutions. Thinking about speed? Think about BLUE!

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BLUE Line fixed drive solutions can also be configured as removable, shuttle-based units mounted on front-removable sleds, providing up to 4GB of Fast/Narrow or Fast/Wide portable storage. Available separate docking stations enable you to transfer gigabytes of data without unplugging a single cable — great for digital video, pre-press, and graphics applications.



Microtech International, Inc. . . .

Presents the Experts in Storage and Memory Seminars at MacWorld Boston — Daily MacWorld Seminar Schedule:

11:00 & 2:00 • How to buy storage for Digital Video production — a guide for the advanced and entry level user.

11:30 & 2:30 • RAID for the rest of us — Understanding RAID storage solutions with applications in prepress and publishing.

Noon: Digital Photography — the FlashFilm and PC card (PCMCIA) storage connection.

12:30 & 3:00 • SCSI VOO DOO — Top ten tips 'n' tricks for troubleshooting storage problems.

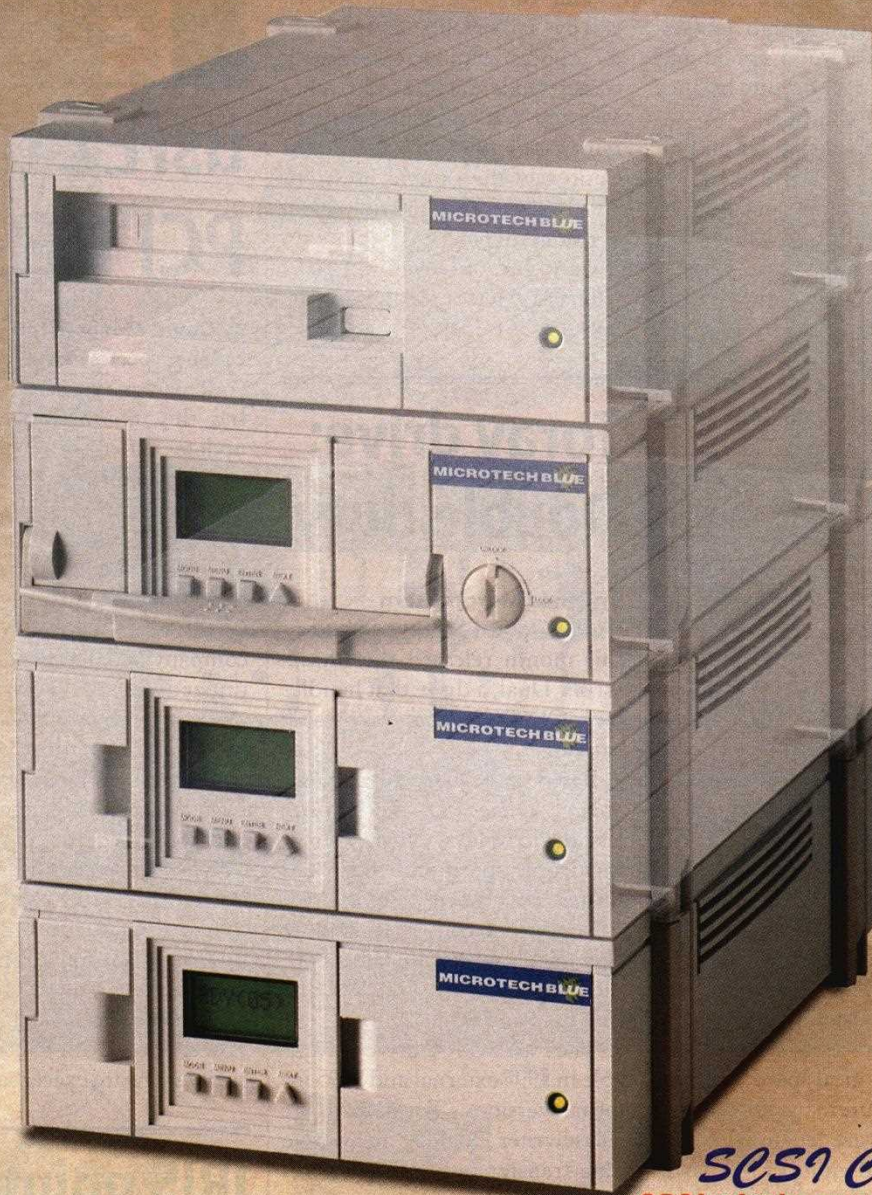
1:00 & 3:30 • Everything you need to know about removable storage — from optical media to PC Card (PCMCIA).



Mac OS



INGRAM
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BLUE Line Design Enclosure

It's not just a better box. It's a better idea. Interlocking BLUE Line cases — each with four-inch power jumper — make rock-solid vertical or horizontal stacks a snap to build and to run off a single cord.



Side-mount power-supply vents heat away from the drive.

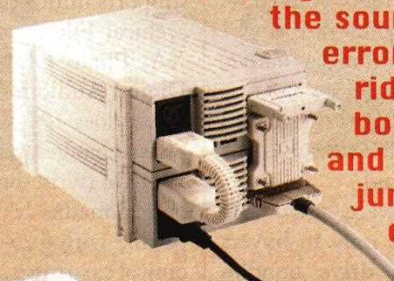
User-modifiable, front-mount LCD panel supports Power-Up, SCSI addressing, and Power Up sequencing. Need tech help?

The LCD even provides Microtech's support number. All this plus enhanced data channel and subsystem design mean true BLUE Line excellence.

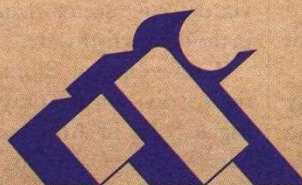
SCSI Chain Improvements

SCSI chain mysteries were tough on you. So we got tough on SCSI chain design —

the source of most peripheral errors and problems. We got rid of nearly all internal ribbons and peripheral cables and put in circuit boards, jumpers, and jumper packs, cutting cable length by nearly 90% — from 21 feet to 28 inches in a seven-device stack. Then we added Forced-Perfect Termination.



Result: BLUE Line products take the mystery out of SCSI chain management.



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Casio ships tiny camera

QV-10 can store up to 96 images

By Felicity O'Meara

Drawing on the look and feel of consumer-market video cameras, Casio Inc. recently shipped QV-10, a small, handheld digital camera with a built-in color display and swivel lens.

Priced at \$999, the camera features a 1.8-inch active-matrix TFT (thin-film transistor) color LCD on the back that serves as both viewfinder and proofing screen. Users can view one, four or nine images.

"The color in the display is very rich, and it gives an accurate idea of the image," said Hans Hansen, publications manager at BMUG Inc. of Berkeley, Calif. Hansen said he is evaluating the camera for use with Internet-based publishing. "I bought the QV-10 as a toy, but now

I'm thinking of using it for business purposes."

The QV-10 has a side-mounted pivoting lens with a fixed focal length and a macro setting for close-up shots (see MacWEEK, Feb. 20, Page 16). It offers shutter speeds from one-eighth to one-fourth-thousandth of a second and includes automatic white balance and exposure controls.

Casio said the camera has an optical resolution of 480 by 240 pixels; software interpolation increases resolution to 640 by 480 pixels. The camera has 2 Mbytes of flash RAM that stores up to 96 images via a JPEG-based compression scheme.

Casio said in addition to image capture, the device is aimed at the presentation market. The camera has an NTSC video-out port so users can display images on a TV.

The QV-10 also comes with a serial port that lets users download images for editing on the

Mac and subsequently upload them to the camera. The images can also be application-generated tables and graphical data; the QV-10's image-transfer software supports PICT and TIFF files.

The camera measures 5.12 by 2.6 by 1.57 inches and weighs 6.7 ounces without batteries. It comes standard with a video cable, Mac and Windows software, carrying case, and AC power adapter. Casio said the camera uses four AA batteries that provide about two hours of power.

Casio Inc. of Dover, N.J., is at (201) 361-5400 or (800) 962-2746; fax (201) 361-3819. □

Toray drive: Double duty

By David Morgenstern

Toray Optical Storage Solutions this month released the Phasewriter Dual, a drive that handles both CD-ROM and rewritable cartridges.

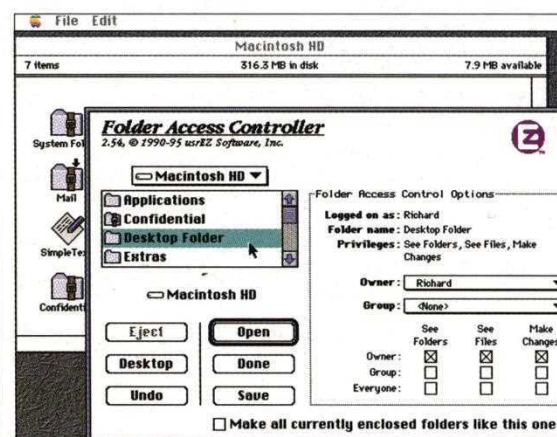
Based on a Matsushita Phase-change Dual (PD) mechanism, the device plays CD-ROMs at quadruple speed and reads and writes 650-Mbyte single-sided PD optical cartridges. Its loading tray can accommodate both media types (see MacWEEK, Feb. 20, Page 4).

The Fast SCSI-2 drive is available in \$995 external and \$895 internal versions. Toray said the Phasewriter Dual has an average data transfer rate of 870 Kbytes per second with PD cartridges.

The company said the drive supports multisession Mac Hierarchical File System, CD-ROM XA, Photo CD, CD Plus and Digital Audio formats. The PD drive does not support current phase-change rewritable and WORM (write-once read-many) optical media. It is also not compatible with 5.25-inch magneto-optical cartridges.

The system ships with one \$64 PD cartridge. Toray said its media supports more than 500,000 read-write cycles and users can expect up to 1 million cycles per cartridge via defective-sector management in the drive's firmware.

Toray Optical Storage Solutions, a division of Toray Marketing & Sales of America Inc., of San Mateo, Calif., is at (415) 341-7152; fax (415) 341-0845; http://www.toray.com. □



The new versions of usrEZ's ultraSecure and ultraShield can prevent users from fooling with the Desktop file.

usrEZ updates boost PCI DES performance

By David Morgenstern

Freeing performance for high-end machines, usrEZ Software Inc. this month shipped speedy updates to its ultraSecure and entry-level ultraShield Mac security programs.

The \$239 ultraSecure 3.54 and \$149 ultraShield 2.54 are compatible with System 7.5.2, which is used with PCI-based Macs. The company said the versions are optimized for the PowerPC 604 processor and provide 11 percent better performance when encrypting files. Users can expect Data Encryption Standard (DES) encryption speeds of up to 3 Mbytes per second when using a Power Mac 9500/132, usrEZ said.

According to the company, the updates also fix a number of "peculiarities" uncovered when running previous versions on the Power Macintosh 9500: The security software exacerbated some

system-level problems with the new architecture, leading to crashes (see MacWEEK, July 24, Page 16).

The new versions also let managers control access to Desktop files and prevent users from altering the placement of icons and creating new folders.

The ultraSecure 3.54 and ultraShield 2.54 upgrades are \$39 each; the software with an updated edition of the user manual costs \$49, usrEZ said.

In addition, the company released ultraShield International 2.54i, a version that can be exported outside the United States and Canada. It offers the proprietary encryption algorithm found in ultraShield 2.54 but does not include DES protection.

usrEZ Software Inc. of Irvine, Calif., can be reached at (714) 756-5140; fax (714) 756-8810; usrez@applelink.apple.com. □

ATTO lines up drives with ExpressStripe 3.5 for PCI

By David Morgenstern

ATTO Technology Inc. got PCI storage moving this month with the release of ExpressStripe 3.5, an update to its RAID software.

Aimed at boosting the data performance of PCI-based Macs, the \$395 ExpressStripe 3.5 treats up to 10 hard drives as a single logical drive.

The RAID Level 0 software requires users to add an ATTO ExpressPCI Fast and Wide SCSI-3 PCI card (see MacWEEK, July 10, Page 10) to their systems. ATTO said the software controller offers about twice the data transfer rate of the individual drives.

According to ATTO, the update is fully compliant with SCSI

Manager 4.3 and lets users generate dual-channel arrays with two-port single-ended and differential ExpressPCI cards that cost \$895 and \$1,195, respectively. The software does not require drives of identical speed, capacity or manufacturer.

The software lets users create an unlimited number of partitions in the array. Users can define a partition and immediately mount it without restarting, ATTO said. Although the PCI card driver is Power Mac-native, ExpressStripe 3.5 is not.

Buyers of an ExpressPCI card can purchase the software for \$49.95, ATTO said.

ATTO's software, previously available only to buyers of hard drive bundles from OEM vendors, is now sold as a stand-alone product. Although the company ships mirroring software for its NuBus products, it has not set a date for its PCI version of ExpressMirror.

ATTO Technology Inc. of Amherst, N.Y., can be reached at (716) 691-1999; fax (716) 691-9353; atto@localnet.com. □



ATTO's ExpressStripe 3.5 lets users create a striping array with up to 10 drives. It requires the company's ExpressPCI card.

IRIS points pen at OCR tasks

By Felicity O'Meara

Users can pick up data at their fingertips with the release this month of DataPen Mac, a handheld scanner and OCR package from Image Recognition Integrated Systems America.

Designed to input short sequences of text, the \$549 pen-size scanner detects motion and scans automatically when users move the device across a page. It has a resolution of 300 dpi for black-and-white text, IRIS said.

The 6-inch pen, originally slated for release earlier this year, uses a parallel interface and comes with a parallel-to-serial NuBus card; a \$379 version with a built-in serial interface is due next month, the company said.

DataPen comes with OCR software based on proprietary

technology. According to IRIS, the software compensates for the skewed and stretched characters resulting from handheld scanners. It has a speed of up to 100 characters per second at an accuracy rate of 99 percent to 100 percent, the company said.

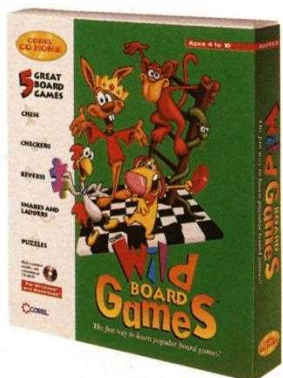
The software can read font sizes from 8 to 22 points and can handle lines up to 11 inches long, IRIS said. It can also substitute a character with another symbol or string of text, such as "\$" to "dollar."

The program requires 8 Mbytes of RAM with 680x0 Macs and 16 Mbytes with Power Macs.

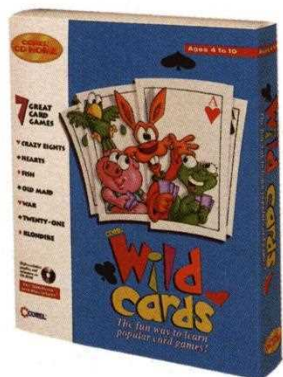
Image Recognition Integrated Systems America of Boca Raton, Fla., can be reached at (407) 395-7831 or (800) 447-4744; fax (407) 347-6267. □



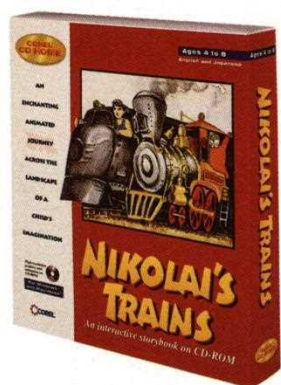
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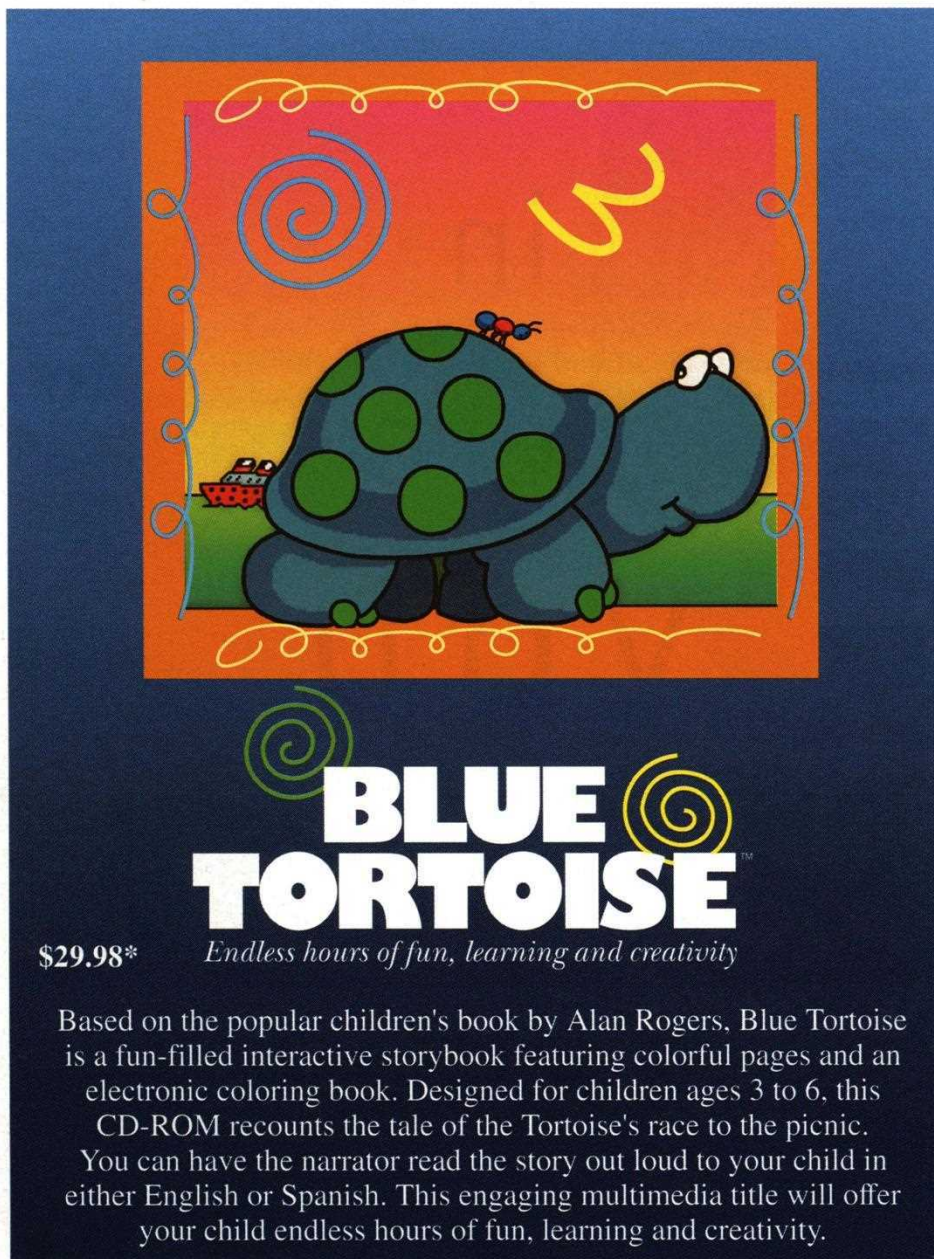
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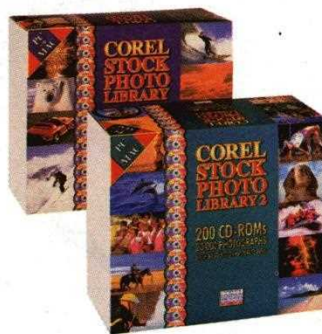
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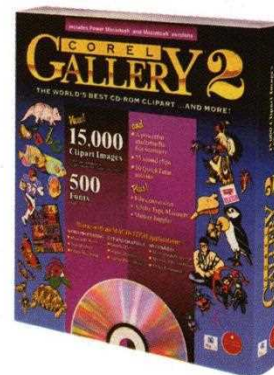
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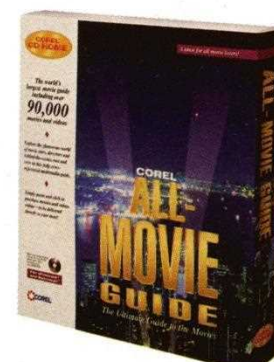
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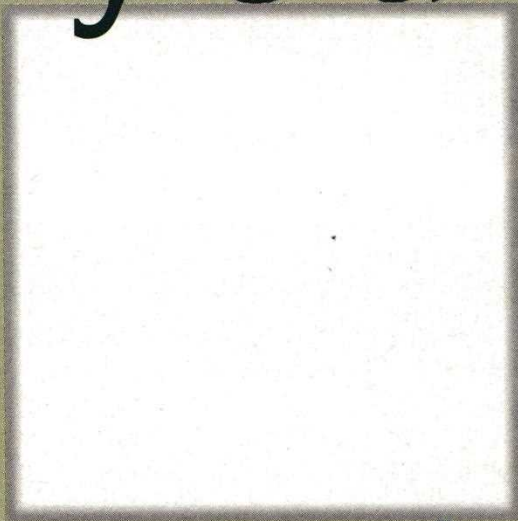
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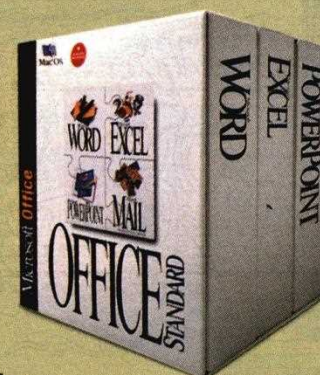
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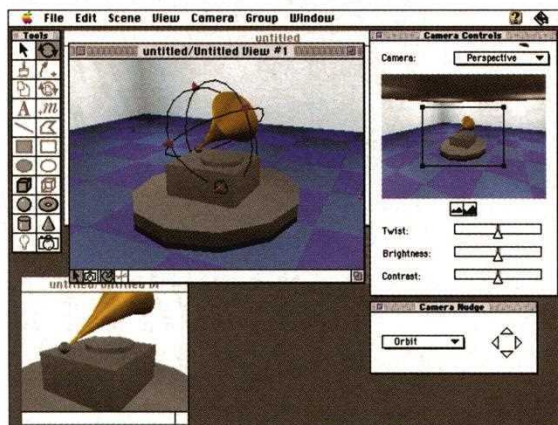
QuickDraw 3D draws interest at Siggraph 95

By Connie Guglielmo

Los Angeles — Apple took the first step toward making 3-D graphics on the Macintosh as simple as x,y,z with its release of QuickDraw 3D at Siggraph 95 here this month.

The system software extension, which makes 3-D image manipulation and rendering a cut-and-paste, drag-and-drop, basic Mac OS technology, is now shipping with the newly introduced Power Mac 7500 and 8500.

"What distinguishes us from our competitors is that we've made 3-D an integral part of the OS — a system-level resource," said John Alfano, digital space product manager at Apple. "A big part of our job now is educating people so they understand what it means to work in 3-D. It's



New Era, a sample 3-D application, displays QuickDraw 3D's approach to scene handling and visual cues for object selection and manipulation.

a different mind-set than the 2-D world people are used to."

Made possible by the floating-point math performance capabilities of the RISC-based PowerPC chip, QuickDraw 3D lets Power Mac users create, edit and incorporate 3-D graphics into Mac doc-

uments as easily as 2-D graphics are manipulated today. The technology has several components, including a robust new cross-platform metafile format, called 3DMF, that stores geometry information as well as information

See QuickDraw 3D, Page 18

3D World based on Apple's QD3D spec

By Carolyn Said

Aiming to make it simple to build complex 3-D objects, Microspot USA Inc. is revving up to offer a low-cost, easy-to-use 3-D application.

3D World, due by the end of the year for \$149, is based on and requires QuickDraw 3D. Like the new Apple system technology, 3D World will run only on Power Macs and will require 16 Mbytes of RAM.

Users will be able to work in wireframe or interactive rendering mode. The application's rendering, which will use Apple's interactive renderer, will happen in real time, the company said.

Users will be able to specify rendering quality of plain, smooth or best. Additional rendering options, such as transpar-

ent surfaces and shadows, will be available for users who have a QuickDraw 3D accelerator board. Microspot said users would also be able to export models to a higher-end program that supports 3DMF (3D metafile format), a new file format established by QuickDraw 3D, for final, higher-quality rendering.

The program will offer controls for applying and adjusting light sources, as well as camera controls for displaying objects in a variety of views. Users will be able to apply colors, textures, images, sounds and movies to 3-D objects.

Support for 3DMF will allow for cut-and-paste or drag-and-drop exchange of 3-D objects between 3D World and other QuickDraw 3D-savvy applications.

See 3D World, Page 18

Tracer can make curves from bit maps

By Cate C. Corcoran

Graphic artists for whom the decision between vector and bit-map images seems ominously final may find comfort in Tracer, a new application from ScanVec Inc. that converts bit-map images to Bezier curves.

Priced at \$495 through October, Tracer takes black-and-white PICT or TIFF bit-map images and vectorizes them into editable curves for use in applications such as Macromedia FreeHand and Adobe Illustrator. After October, Tracer will cost \$795.

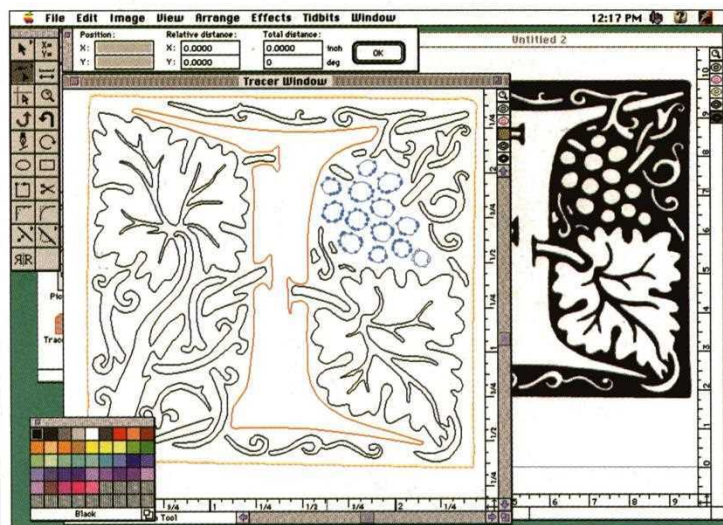
Users can choose among Outline, Centerline and Outline/Centerline Combination tracing options to best suit their original image. According to the company, Outline is for images with inconsistent line weights that have solid areas; Centerline works with images with consistent line weights and no solid areas; the combination setting is designed for originals with both consistent line weights and large solid areas.

Editing tools let users smooth curves, make square corners, straighten lines and make round objects into perfect circles. A scanning option lets users scan images directly into Tracer for conversion to line art.

Tracer exports finished files in EPS, HP-GL and DXF (Drawing Interchange File) formats.

ScanVec's fax-back line at (800) 766-6644 has more details.

ScanVec Inc. of Wilmington, Mass., is at (508) 694-9488 or (800) 866-6227; fax (508) 694-9482; usales@scanvec.com. □



ScanVec's Tracer vectorizes bit-map images into Bezier curves and offers editing tools for making perfect circles, square corners and straight lines.

FOCUS ON

DIGITAL VIDEO

Mac solutions grow for MPEG encoding

This is the second of a three-part examination of MPEG. Next week's Focus On will look at the MPEG market.

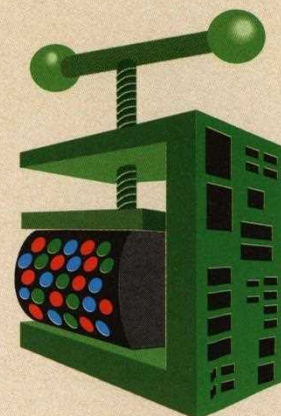
By Bob Doyle

While MPEG decoding, or playback, on the Mac is still a nascent industry that Apple is trying to propel, the Mac is already a leader in real-time MPEG video-encoding systems. Meanwhile, some new Mac solutions will offer non-real-time MPEG encoding at extremely low prices, and the first editable MPEG for the Mac is on the horizon.

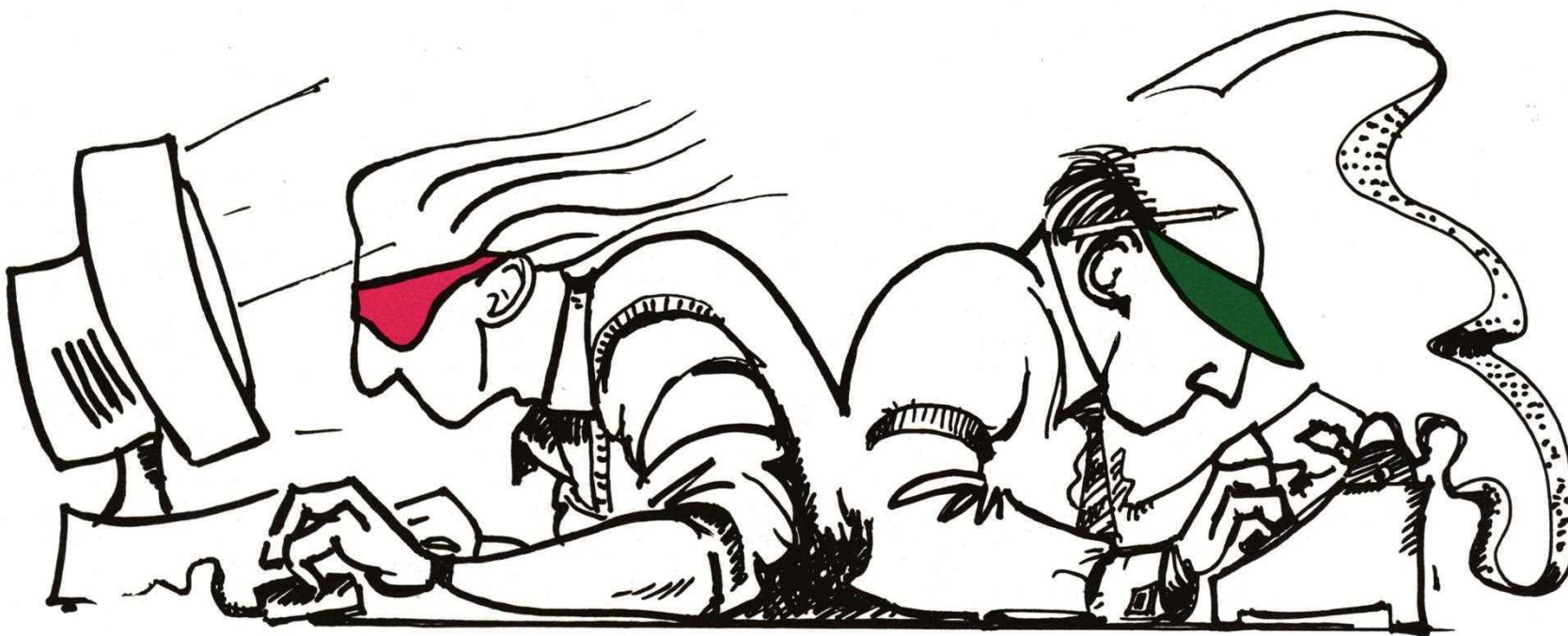
Editable MPEG

At the low price of \$2,500, Butane, a Mac PCI card expected in September from Wired Inc.

of Mountain View, Calif., will allow editing of MPEG streams by encoding or compressing in two stages. This technique was pioneered by Sigma Designs Inc. with its \$4,995 RealMagic. See Focus On, Page 18



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Plug-in Source offers add-ons

Adobe apps get new uses with latest offerings

By Cate C. Corcoran

Having expanded from a clearinghouse for PageMaker Additions to a one-stop shop for plug-ins for Adobe Systems Inc.'s major applications, the Adobe Plug-in Source has a plethora of new offerings.

► **Medley**, a \$245 Illustrator plug-in from The Human Software Co., lets users manipulate up to 64 complex layers of images in real time while minimally taxing system RAM, the company said.

The plug-in tools for making layered montages include a blending tool, a drop shadow capability and a variation box that lets users preview montage options. The plug-in also performs color separations and corrections.

► **Series 3 Screens Filter 1.2** from Andromeda Software Inc., \$95, lets Photoshop users trans-



form gray-scale photos into line art and apply mezzotints and mezzograms to images (see review, Page 50).

► **xTools One** from XMAN Software is a \$99 plug-in for Acrobat that lets users write on pages in nonprinting ink, eases creating links and bookmarks, assigns creation dates for annotations, and puts text copied to the Clipboard into footnote format.

► **Re:mark** from Software Partners Inc., \$99, adds a floating tool bar, pop-up comments and graphical annotation tools such as thumbtacked notes and balloons to Acrobat. Users can also record

voice comments and place them in Portable Document Format files with the plug-in.

The Adobe Plug-in Source of Seattle can be reached at (800) 685-3547; fax (206) 489-3446 or (800) 648-8512. □

Human Software's Medley lets Illustrator users make image montages from up to 64 complex layers; the plug-in also performs color separations and corrections.

voice comments and place them in Portable Document Format files with the plug-in.

The Adobe Plug-in Source of Seattle can be reached at (800) 685-3547; fax (206) 489-3446 or (800) 648-8512. □

QuickDraw 3D From Page 16

about object attributes such as lighting, shading and texture.

In addition, QuickDraw 3D offers an API for hardware acceleration, basic routines for modeling and rendering, and guidelines for a consistent user interface. Apple plans to release a new version of the extension next year that will provide developers with a plug-in architecture for creating their own shaders and renderers.

Apple is also developing a test-bed 3-D application, called New Era, that shows off the capabilities of its technology, Alfano said. The company plans to provide developers with the source code for New Era as part of the QuickDraw 3D developers tool kit sometime next year.

More than 30 graphics software developers have announced they will support QuickDraw 3D within their applications, including Adobe Systems Inc., Artifice Inc. (see story, Page 4), Fractal Design Corp., HSC Software, Macromedia Inc., Ray Dream Inc., Specular International Ltd. and Strata Inc.

Recognizing that 3-D handling can be taxing on even the most souped-up Power Macs, board

developers, including YARC Systems Corp. of Newbury Park, Calif., and Matrox Graphics Inc. of Montreal are readying new 3-D acceleration boards.

Apple also plans to get into the 3-D accelerator market. "We've made 3-D easier, but we haven't changed the laws of physics," Alfano said, describing Apple's plan to deliver a competitively priced 3-D accelerator PCI board by year-end. Features that will distinguish Apple's offering, according to Alfano, include trilinear mapping; real-time transparency; and real-time constructive solids geometry, described as the ability to subtract volumes of data between objects so that they appear to be intersecting.

QuickDraw 3D is available on commercial on-line services and through Apple's home page at <http://www.info.apple.com>.

Developers who want to redistribute QuickDraw 3D with their applications must pay a \$250 licensing fee. Licensing information can be obtained at (512) 919-2645 or sw.license@applelink.apple.com.

APDA is selling a QuickDraw 3D Software Developer's Kit as part of its Mac OS Developer's Kit No. 4 for \$299. APDA is at (800) 282-2732 or (716) 871-6555. □

3D World

From Page 16

3D World will offer a plug-in architecture; Microspot said it will publish the API so third parties can write plug-ins. The company will offer plug-ins for interior designers based on its MacInteriors program; pricing has not been determined.

3D World will come with the 3D World Librarian, a utility that will let users store and retrieve graphics, sounds, colors, textures and 3-D objects. Users will be able to search and display files by name, type, size or keyword, and will be able to import or drag-and-drop objects from the library into 3D World. Each library will hold about 60,000 files; users will be able to create an unlimited number of libraries.

Microspot of Saratoga, Calif., can be reached at (408) 253-2000 or (800) 622-7568; fax (408) 253-2055; microspot1@aol.com. □

Strata shipping bundle of tools for multimedia

Strata Inc. is the latest graphics company to put together a suite of tools, offering a savings of more than \$2,000 on a bundle for multimedia producers.

Strata Virtual Studio, available now for \$2,095, includes Strata's StudioPro and MediaPaint; Allegiant Technology Inc.'s SuperCard; and a trio of multimedia programs from Avid Technology Inc.: VideoShop, Elastic Reality and TransJammer Volume 1. The programs would have a retail value of \$4,128.95 if bought individually.

Strata Inc. of St. George, Utah, can be contacted at (801) 628-5218; fax (801) 628-9756. □



FOCUS ON

From Page 16

Producer PCI card for the Intel-standard PC.

First, users compress video to a stream of MPEG intracoded I-frames and edit them with a QuickTime editor such as Adobe Premiere. They then compress the edited sequence of I-frames (which takes three to five times real time) to the full syntax of I-, B- and P-frames when they make the movie.

Ordinary MPEG is not editable because users can't select an arbitrary frame, which may be a P (predicted)-frame or B (bidirectionally predicted)-frame dependent on earlier intracoded I-frame information. An I-frame is comparable in quality and in data storage requirements to a Motion-JPEG frame, the standard compression technique for professional digital video editing systems from Avid Technology Inc., Data Translation Inc., Radius Inc., Truevision and others.

MPEG I-frames are randomly accessible and, therefore, editable like Motion-JPEG. However, MPEG has a few things going for it that Motion-JPEG doesn't. First, MPEG includes audio compression, reducing file sizes. Second, MPEG is an international standard promising file interchange between platforms. Third, Motion-JPEG artifacts look to the MPEG encoder like noise that cannot be compressed. By starting with MPEG I-frames, users produce the minimum file size and maximum possible video quality.

If Editable MPEG establishes itself, leading digital video editing companies can be expected to offer MPEG editors. Avid of Tewksbury, Mass., showed MPEG editing in a private technology demonstration at the National Association of Broadcasters show this spring.

Software encoding

Another economical solution for non-real-time encoding has been developed by a small German company. Pole Position Software GmbH of Neunkirchen, Germany, in September will release Tombak, a software MPEG encoder and decoder for Power Macs. The package, which will cost less than \$2,000, will include an application that converts

QuickTime files to MPEG and vice versa and an Adobe Premiere plug-in, which will allow users to export a Premiere construction window as an MPEG document. A second Premiere plug-in will export an edit-control list as an editable text file. The company said that, on a Power Mac 8100/80, Tombak takes about 62 seconds to encode 1 second of video at 25 frames per second and 352 by 288 pixels.

Real-time encoding

But the majority of MPEG encoding still happens in real time, and systems have price tags that reflect this high performance. The leading Mac MPEG encoders are from Optimage of West Des Moines, Iowa, (partly owned by Philips Consumer Electronics Co.); Intelligent Resources Integrated Systems of Arlington Heights, Ill.; and Minerva Systems Inc. of Santa Clara, Calif.

Optimage's Delta Vx (recently reduced to \$55,000 for software and boards in a NuBus expansion chassis) and Minerva's Compressionist 50 (\$45,000 for a Power Mac desktop system) and Compressionist 100 (\$95,000 for a rackmount NuBus system) have won high marks for video quality. All three systems use the Intelligent Resources Video Explorer NuBus card for video digitization. Video Explorer accepts RGB inputs and YUV inputs from component videotape such as Betacam SP, whose picture encodes more efficiently than lower-cost formats such as Super VHS and Hi-8.

Intelligent Resources has decided to enter the MPEG market itself, acquiring marketing rights to a NuBus MPEG encoder card made by 3DO Co. of Redwood City, Calif., previously sold mostly to 3DO's game developers. Intelligent Resources has just begun shipping it as part of the MPEG Explorer, a \$79,995 turnkey system based on a Power Computing Corp. clone.

Another new development is MPEG-2 encoding, which Minerva will introduce by year-end with its Compressionist 200. (Users will be able to upgrade the Model 100 to the 200.) MPEG-2, at 704 by 480 pixels and 60 fields per second, is superior to typical TV broadcasts; MPEG-1 video is 352 by 240 pixels and 30 frames per second, roughly comparable to a VHS videotape. □

MPEG has a few things going for it that Motion-JPEG does not.

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Transverter Pro now PDF-savvy

By Cate-C. Corcoran

TechPool Software recently shipped its PDF-savvy new version of Transverter Pro, a utility for viewing and converting PostScript files into TIFF, EPS and other formats (see MacWEEK, June 12, Page 12).

Transverter Pro 3.0, priced at \$395, in-

cludes new font-handling capabilities, such as a dialog box showing which Type 1 and TrueType fonts are installed on the local system. The utility can now install fonts for single jobs and assign font substitution. DOS Type 1 fonts and kanji are supported for the first time in the new version.

Transverter Pro 3.0 now handles conversion of Adobe Acrobat's PDF, or Portable Document Format, files. Users can view PDFs with Transverter Pro and convert them into EPS with previews, editable EPS, TIFF or PICT formats.

Upgrades to Transverter Pro 3.0 from any previous version are \$99.

TechPool Software of Cleveland is at (216) 382-1234 or (800) 925-6998; fax (216) 382-4825; support@techpool.com. □



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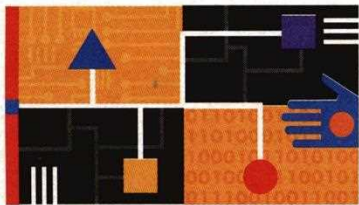
► **Horizons offers video bundle**

Interactive Media Corp. of Los Altos, Calif., last month shipped Special Delivery 2.1. The upgrade to the \$259 multimedia authoring tool lets users create continuously playing soundtracks, adds more transitions and includes more button commands for automatically highlighting active screen regions. Phone (415) 948-0745. ... A new bundle squeezes together compression and video editing. **Horizons Technology Inc.** of San Diego is now bundling its TrueMotion-S video-compression software, regularly \$499, with the VideoShop editing package, normally \$395, from **Avid Technology Inc.** of Tewksbury, Mass. The \$599 bundle is available through Computown. Horizons is at (800) 828-3808. ... **Point S Inc.** of Cleveland is offering a software answer to designers, pre-press pros and printers who need to match CMYK colors on output devices. The \$119 [CMYK] Squared automatically generates tint charts out of any or all of the process colors in increments from 1 percent to 100 percent. Phone (216) 241-1140; info@point-x.com ... **Adobe Systems Inc.** of Mountain View, Calif., recently shipped Adobe Persuasion 3.02 on CD-ROM. The \$395 CD-ROM Bonus Pack includes textures, clip art and sample images, as well as Adobe TypeTwister and documentation in Portable Document Format. Phone (800) 521-1976. ... **Polaroid Corp.** of Cambridge, Mass., this month shipped a free upgrade to its Print to Press closed-loop color scanning and separation system. The new version scans prints from Polacolor Extended Range Films Type 669 and 59 and Polacolor 64 Tungsten. It includes an enhanced color palette and rescreening options and new black-and-white photo settings. Phone (800) 662-8337, Ext. 832. □

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you want on the desktop.

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Open Transport: Fix is in

Apple quashes bugs with update

By Clifford Colby

At Macworld Expo in Boston this month, Apple followed through on its promise to tune Open Transport. The company released Version 1.0.6 of its new networking architecture in tandem with the new Power Mac 7200s, 7500s and 8500s.

According to Garry Hornbuckle, Apple product line manager of Mac OS communications, Version 1.0.6 includes bug fixes, improved performance and backward compatibility, as well as support for the newest Power Macs. Hornbuckle said Apple set aside 1.0.6 for the new Macs and skipped from Version 1.0.1, the

Open Transport moves forward

VERSION	SHIP DATE	CHANGES
1.0	Mid-June	Initial release
1.0.1	End of June	Improved backward SLIP and PPP compatibility
1.0.6	Mid-August	Bug fixes, faster, support for PCI Macs
1.0.7	End of August	Bug fixes for MacIP

last version available, to Version 1.0.6 when the new PCI machines shipped.

He also said the next version of Open Transport, 1.0.7, will fix a bug in networks using MacIP with more than 256 nodes, improve performance of Serial Line Internet Protocol and Point-to-Point Protocol (PPP), and improve compatibility with Apple Remote Access (ARA) 2.0.

"For the Power Mac 9500s, we recommend upgrading to Version 1.0.6 or 1.0.7," Hornbuckle said.

Apple is now focused on Version 1.1 of Open Transport, due at the end of 1995, Hornbuckle said. Open Transport 1.1 will be tuned for 100-Mbps data links and server applications, include support for ARA PPP, and run on NuBus 680x0 Macs and Power Macs. □

Wall Data builds up its emulator line

By Nathalie Welch

Strengthening the ties that bind Macs to IBM hosts, Wall Data Corp. this month announced upgrades and a new naming convention for its line of terminal emulators for AS/400s and mainframes.

Shown at this month's Macworld Expo in Boston and due next week, what was formerly SNA•ps 5250 will ship as MacRumba for the AS/400 for \$345. The MacRumba GC (gateway client) for AS/400 is \$125, while MacRumba for TCP/IP

AS/400 Edition and MacRumba for AppleTalk AS/400 Edition are each \$225.

In November, SNA•ps 3270 will be delivered as MacRumba for the Mainframe. The gateway client will be \$125; the TCP/IP version and a version for NetWare are both slated at \$225.

"[The upgrade] takes a lot of user features from the Windows side, which looks great," said Josh Ornstein, MIS director at Podell Industries Inc. in Los Angeles.

See MacRumba, Page 24



Wall Data's MacRumba terminal emulator can show multiple views of data stored on AS/400s and mainframes.

FOCUS ON

ON-LINE SERVICES

MSN debut heats up competition

By James Staten

While the Intel-standard world eagerly awaits this week's Windows 95 release, the commercial on-line services are already responding to the bundling of Microsoft Network with the operating system.

America Online Inc., CompuServe Inc., Prodigy Services Co. and other on-line players are pouring energy into plans designed to make their services more attractive when compared to Windows 95's built-in service. While Microsoft Network (MSN) won't be offered for the Mac until next year, most of the changes to the rival services will affect Mac users immediately.

The first change is price. MSN rates will start at \$4.95 per month for three hours of access; each additional hour will be \$2.50. Its competitors charge about \$9.95 per month for five hours with additional hours going for \$2.95 each. None of the services said they plan to drop their rates to meet

Microsoft's teaser price, which also adds up to \$9.95 for five hours of use as well. Yet all are modifying their pricing plans.

America Online is quick to point out that most areas on MSN will carry a surcharge for full ac-

See Focus On, Page 26



CompuServe Information Manager 3.0 will feature a new interface designed to ease navigation and integrate a World-Wide Web browser.

PC cards hit the boards

By Clifford Colby

Farallon Computing Inc. plans to announce this week it is preparing Ethernet, modem and multi-function PCMCIA cards for current and upcoming PowerBooks. In related news, Zoom Telephonics Inc. released a PCMCIA modem card at Macworld Expo in Boston this month.

Farallon intends to ship by the end of this month its EtherMac PCMCIA card for linking to 10BASE T networks and its dual-connection EtherMac PCMCIA card, which will come with a 10BASE T cable and thin-net connector. The card will be able to autosense the type of media to which it is connected.

The 10BASE T card will have an estimated street price of \$199, and the dual-connection card will cost about \$249.

In October, Farallon plans to ship its EtherWave PCMCIA card for \$249. It will come with two RJ-45 connectors for linking into a 10BASE T network.

In December, Farallon plans to ship a dual-function LAN-connectivity and modem PCMCIA card for Apple's upcoming PowerBooks, due in September. It will combine an Ethernet adapter with a 28.8-Kbps modem.

Zoom announced it is shipping its V.34C-Mac Zoom/PCMCIA FaxModem. The \$269 device combines a 28.8-Kbps data modem with a 14.4-Kbps fax modem.

Farallon Computing Inc. of Alameda, Calif., can be reached at (510) 814-5000; fax (510) 814-5023; info@farallon.com.

Zoom Telephonics Inc. of Boston is at (617) 423-1072 or (800) 666-6191; fax (617) 423-9231. □

Introducing Windows 95.
It has a trash can you can open
and take things back out of again.

Imagine that.



Grand readies switches

Line will handle multiple addresses

By Clifford Colby

Grand Junction Networks Inc. is readying the next generation of its networking switches, with plans to allow the devices to handle multiple MAC addresses for the first time.

The FastSwitch 2000 line, due this month, will include two switches, the 2100 and 2800, intended for the workgroup. The \$6,495 FastSwitch 2100 will come with 25 switched 10-Mbps Ethernet ports and two switched Fast Ethernet ports and will be able to manage 1,024 MAC, or Media Access Control, addresses. Previously, Grand's switches could handle only one MAC address per port.

Grand's second new switch, the FastSwitch 2800, will also have 25 switched 10-Mbps Ethernet ports and will include two slots to ac-



The new switches will be able to handle multiple MAC addresses and allow users to add FDDI connections.

cept Grand's current one-, four- and eight-port Fast Ethernet or Fiber Distributed Data Interface (FDDI) modules.

Grand said it plans to offer the FastSwitch 2800 in several configurations. A \$6,295 version will handle 2,048 MAC addresses, and a \$7,295 version will top out at 8,192 MAC addresses. Grand also plans to sell the FastSwitch 2800 configured with FDDI modules for \$10,290 to \$12,290.

"Users bought Grand boxes because of their speed, but people got worked up over the lack of address support," said Tam Dell'Oro, principal analyst with the Dell'Oro Group of Menlo

Park, Calif. "Coming out with multiple MAC addresses will be an uptick for Grand."

"The Ethernet market is huge and poised to shift to switching," Dell'Oro said. "Grand is showing it is serious about taking advantage of that shift."

Grand said it lowered the price on its FastSwitch 10/100 switch. The device, which comes with 25-Mbps switched Ethernet ports and two high-speed ports, now costs \$3,995, down from \$7,950.

Grand Junction Networks Inc. of Fremont, Calif., can be reached at (510) 252-0726 or (800) 747-3278; fax (510) 252-0915; info@grandjunction.com. □

Spyglass to update Enhanced Mosaic

By James Staten

Spyglass Inc. last week announced a new version of its World-Wide Web browser, Enhanced Mosaic, that will support a variety of new HTML tags, including colored text and backgrounds, and add in several electronic-commerce technologies.

Version 2.1, due in September, will be able to display proposed HTML, or Hypertext Markup Language, 3.0 formatting, including tables, centered and right-justified text and images, text wrapped around images, background colors and graphics, and colored text.

The new version will also support several electronic-commerce methods, including First Virtual Holdings Inc.'s First Virtual Wallet, Cybercash Inc.'s CyberWallet and Electronic Business Co-op's Electronic Wallet. Additional security schemes will be supported through a plug-in framework, said Spyglass of Naperville, Ill.

To speed performance for users with slower dial-up connections, Enhanced Mosaic 2.1 will cache recently visited pages and upon return will compare the cached documents with those on the server and download them again only if they changed, Spyglass said.

The application will also support Smart Maps, image maps that the client can resolve without server intervention. Server administrators must have embedded the image map files in their Web pages for this function to work.

The updated Web browser will also be able to display documents in multiple languages; French and German will be supported initially.

End users obtain Enhanced Mosaic through OEMs, including O'Reilly & Associates Inc. of Sebastopol, Calif.; Performance Systems International Inc. of Herndon, Va.; and Ventana Communications Group of Chapel Hill, N.C. □

Tenon preps Unix for Power Macs

By Nathalie Welch

Tenon Intersystems showed off one of the first Unix environments accelerated for Power Macs at this month's Macworld Expo in Boston.

Due this month, MacTen Power Unix 4.0 offers Mac users pre-emptive multitasking for Unix applications and includes a high-performance TCP/IP stack, with support for multihoming.

Pricing has not been set.

Software developers will be able to create binary PowerPC Executable Format files that can integrate with Mac development environments. This means Unix software tools can be used to create a Unix application with a Mac interface, the company said.

The application will also include a World-Wide Web server with multidomain extensions; a text editor with HTML (Hypertext Markup Language) extensions for creating Web pages; and Unix "hard links," which will make it easier to bring over Unix applications to Power Macs.

Tenon also claims dynamic links to shared libraries reduce MacTen's memory requirements by 50 percent.

The upgrade, free to those who purchased the product after March 14, 1994, improves system efficiency by providing memory-mapped file access, which defers allocation of application instruction memory until a specific page reference is made, according to the company.

Tenon Intersystems of Santa Barbara, Calif., can be reached at (805) 963-6983 or (800) 662-2140; fax (805) 962-8202. □

Pictorius Prograph Classic to go into public domain

By Clifford Colby

Pictorius Inc. announced at Macworld Expo in Boston earlier this month that it will put Prograph Classic in the public domain.

Prograph Classic is the predecessor to Prograph CPX, the company's object-oriented programming language. The Classic version will not include a compiler, but Pictorius will offer the Prograph compiler as shareware for \$25, with proceeds going to charity. Pictorius said it expects Prograph Classic and the compiler to be available on its World-Wide Web site by the end of this month.

The company announced a Sept. 1 ship date for Prograph CPX 1.3, which will include a Power Mac compiler. Pictorius

also said September will see the shipment of Peregrine, its client-server development tool based on Prograph CPX (see MacWEEK, May 8, Page 14).

Prograph CPX 1.3 will cost \$695; users of previous versions will be able to upgrade for \$495. Peregrine will be available in a \$1,495 single-user version with connections to databases from dxF Americas Inc. and EveryWare Development Corp.; a multi-user version with no runtime fees and connections to Oracle and Sybase databases will cost \$2,495.

Pictorius Inc. of Halifax, Nova Scotia, can be reached at (902) 455-4446 or (800) 927-4847; fax (902) 455-2246; sales@prograph.com; http://www.pictorius.com. □



Enhanced Mosaic 2.1 will maintain its interface while adding support for HTML 3.0 tags, including tables, centered and right-justified text and images, background graphics, and colored text. It will support several electronic-commerce standards.

MacRumba From Page 22

"The original SNA•ps was no dog — we used it around here for years — but this product is much more robust and easier to work with."

The upgrades will offer a new graphical user interface sporting a customizable tool bar for easy access to commonly used menu functions.

In addition to the tool bar, a Quickstep feature will let users create floating keypads containing functions and control keys, macros, and menu commands. Users will also be able to modify the interface by setting screen and

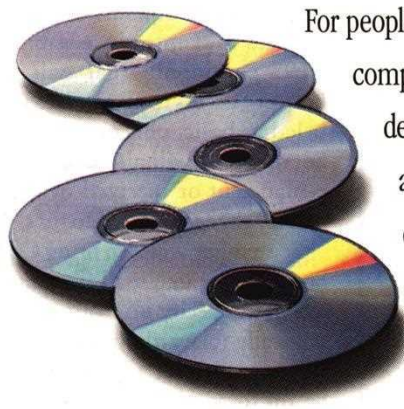
font sizes in addition to background colors and patterns.

For users with access to the OfficeVision/400 e-mail system, MacRumba for the AS/400 will make composing messages easier via a new full-screen text editor. Mac users will be able to exchange mail with other AS/400 users, whether on Mac, Windows or OS/2 platforms.

Wall Data acquired the SNA•ps line of emulators from Apple last year.

Wall Data Inc. of Kirkland, Wash., can be reached at (206) 814-9255 or (800) 487-8622; fax (415) 812-1656. □

Imagine this.



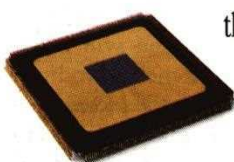
For people who don't use a Macintosh® computer, the most significant development in years has finally arrived. It's very big news. It's called Windows 95.

Yes, Windows 95 makes it easier for people to use their computers. It's a little more graphical. A little more intuitive. It even has a trash can.

In short, it makes a PC more like a Macintosh — you know, the Macintosh we built back in 1984. But compare a PC running Windows 95 to the Macintosh of 1995, and you'll discover a decade of difference.

A new kind of power.

In a recent independent study, for example, the RISC-based Power Macintosh™ 9500 outperformed a 120 MHz Pentium-processor-based PC running Windows by 63% on average. When running scientific and technical applications,



the Power Macintosh advantage climbed to 80%. While for power-hungry graphics applications, the Power Mac™ was more than twice as fast.*

Why does the average person need this kind of power on his or her desktop? Because — as both Microsoft and Intel are quick to point out — graphics, multimedia and interactive media will play a huge role in the future of personal computing. What they *don't* point out, of course, is that Power Macintosh delivers the power you need for these advanced, processing-intensive applications, today.

A computer you can use.

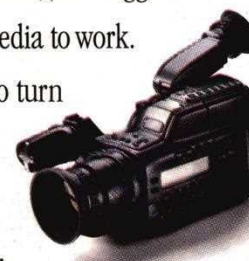
Of course, all the raw power in the world is worthless if you can't use it. That's why every Macintosh is so easy to set up and use. That's why every new Mac™ includes an innova-

tive help system that doesn't just answer your questions, but shows you what to do, where to click and what to type to get things done. And why we make it so easy to create Internet connections, install multimedia software and set up entire new networks from scratch.

The way beyond multimedia.

For many of the companies that design and manufacture PCs (or write operating systems for them), the biggest challenge of all is simply getting multimedia to work.

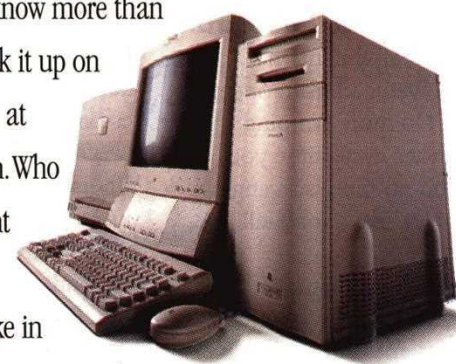
Meanwhile, ordinary people who turn on a Power Mac can do a lot more than run snappy new multimedia titles. They can create 3-D graphics, use voice recognition, videoconference across continents, even get started with virtual reality — all at the touch of a few keys and a click of a mouse. Because you can get these so-called “future” technologies in a Power Macintosh, today.**



A new choice.

The next time you hear the skeptics say, “But a Macintosh won't run the software we need,” tell them this: There's now a Macintosh — the Power Macintosh 6100/66 DOS Compatible, to be specific — that runs everything a Macintosh can run, *plus* thousands of programs for Windows and DOS. Then, if they ask you about hardware compatibility, tell them how the PCI slots built into the new Power Mac accept standard PCI cards.

If they want to know more than that, tell them to look it up on the World Wide Web, at <http://www.apple.com>. Who knows, they just might get a peek at what Windows will look like in another decade or so. Imagine that.



FOCUS ON

From Page 22

cess, boosting prices beyond the basic rate. For years, CompuServe has been successful with the same strategy, including surcharges for Internet e-mail and large messages, but nearly all of CompuServe's extra charges will end shortly after MSN's launch.

However, pricing is just one aspect of

the changes that are about to take place.

► **America Online's** frenzy of company acquisitions this year will result in MegaWeb, the code name for an upcoming Internet access service that will compete mainly with Performance Systems International Inc. and UUNET Technologies Inc. It is scheduled to debut on Windows Aug. 24, with a Mac version to follow.

AOL, based in Vienna, Va., will ship a CD-ROM later this year to reduce delays

users encounter when entering a new area. It will contain Version 2.6 of the AOL client, the AOL Web browser and all the art for every forum currently on the service, the company said.

The AOL Web browser has garnered numerous complaints from Mac users, mainly about its slow performance. The company is working on the Mac version of InternetWorks, the Web browser it acquired along with Booklink Technologies Inc.

► **CompuServe** of Columbus, Ohio, announced that it will eliminate most of its e-mail and forum surcharges; introduce a server-based e-mail filtering system; and develop an entirely separate, more consumer-friendly on-line service that may ultimately compete with CompuServe Information Service.

Starting Sept. 10, CompuServe will kill its \$4.80 per hour surcharge for extended services and introduce a billing plan of \$9.95 per month that will include five hours of access to all services previously labeled as basic, plus or extended. CompuServe said it will also drop surcharges for e-mail sent or received over the Internet and all charges related to message size.

September will also bring CompuServe's SmartRules, an e-mail filtering system that lets users specify up to 10 criteria for automatically forwarding and replying to mail.

Long-awaited user names, which can be up to 32 characters long, will also be provided, and users will be able to send alphanumeric pages in September.

Just in case this isn't enough to lure users to its network, CompuServe later this fall will debut Version 3.0 of CompuServe Information Manager, which will feature a completely redesigned interface for improved navigation and an integrated Web browser.

It will also go after new consumers through an on-line service code-named WOW!, which will feature an easy-to-use interface that will let users custom-design the service and browse topics off-line. WOW! will be unveiled in November at Comdex/Fall '95 in Las Vegas.

► **Prodigy** of White Plains, N.Y., earlier this month released its new interface, code-named P2, to Windows users and said the Mac version will be available later this year. P2 melds Prodigy's proprietary content with the Internet by displaying much of its material in HTML (Hypertext Markup Language) format.

The company said the Mac version would not be a straight port from Windows but would be a Mac product from the ground up. Beth Maier, Mac product designer for Prodigy, said the client, for example, will be fully AppleScript-compliant and run native on Power Macs. She said the new version will support multiple resizable windows and standard Copy and Paste functionality.

New features will include the ability to add a name to the address book automatically from anywhere in the service, including the Web, and a completely redesigned interface to message boards. A split-screen window with the originating message at the top and its associated replies at the bottom will be provided, giving users a better sense of a thread's organization.

► **Delphi Internet Services Co.** may be a minor player now, but with a major influx of cash from MCI Communications Corp. of Washington D.C., and new parent, News Corp. of Sydney, Australia, it plans to take on Microsoft Network.

MCI and News Corp. announced a joint venture this month that will combine their respective interactive content companies

Continued on next page

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Utilizes a fully WinSock compliant VxD stack for MS Windows.
(Works on Windows 3.1 or later; Windows for workgroups 3.11 or later.)

MWK 10

with Delphi to create a new commercial on-line service.

The as-yet-unnamed venture will combine MCI's Information Services/Entertainment Co., FYI On-line services, InternetMCI and MCI Mail with News Corp.'s Kesmai Corp., a multiplayer on-line game company.

MCI said the new service will be entirely HTML-based and leverage News Corp.'s worldwide publishing holdings, which include TV Guide, Fox Broadcasting Co., 20th Century Fox Co., fX and HarperCollins.

MCI said it plans to deliver the new service to customers this fall. Pricing has not been set.

If this were any other time of year, these improvements could be chalked up as standard competitive fare. But analysts said that with Aug. 24 looming, it is clear the major on-line services see Microsoft Network as a threat. One of those analysts, Paulette Donnelly with Simba Information Inc. of Wilton, Conn., estimated that most new users try a couple of services before they sign up with one for the long haul. That tire-kicking number may increase to three because MSN will come bundled with Windows 95 and will be present on the desktop at start-up.

MSN may get further attention through its integration with other parts of the OS and other Microsoft products. For example, members of MSN will be able to drag icons representing services on the network into folders with their files or applications. A Microsoft Word user could put the icon for the on-line edition of Microsoft Bookshelf in the same folder with the application for easy access when doing word processing.

It may take MSN two years or more to build its membership to that of AOL or CompuServe. In addition, Microsoft will

limit its own growth, capping membership at 500,000 in 1995.

Market research firm Simba predicts that by the end of 1996, MSN will have lured 2.5 million people to its service, compared with 5.3 million for AOL, 4.4 million for CompuServe and 1.5 million for Prodigy.

Not until the end of the century does the research organization predict Microsoft Network will approach the size of AOL.

Simba estimates that in 1999, MSN will have 7.8 million members, while AOL will have 8 million.

"[Microsoft] may be a giant in the software business, but it is a small player in this market," Donnelly said. "I think people will be curious and will try Microsoft Network, but from a cost standpoint, I don't think its pricing is that much cheaper."

Donnelly added that other than being bundled with the OS, MSN really doesn't

offer anything truly unique.

"Between the four top players right now — AOL, CompuServe, Prodigy and Microsoft Network — pricing is so similar, Internet access is about the same, and the content is so similar," she said.

For one service to gain an edge over the others, she added, it will have to broaden its appeal and carve a clear identity for itself through the type of content and community it provides. □

SMC readies PCI networking cards

Standard Microsystems Corp. plans to enter the Mac Ethernet card market in September when it ships Mac drivers for its EtherPower line of PCI networking cards.

SMC, which previously stuck to the Windows market, intends to provide Mac PCI software for its \$163 EtherPower 10-Mbps Ethernet PCI card; its EtherPower2, which has two PCI 10BASE T adapters on one board for \$286, or one 10BASE T and one thin-net adapter for \$338, and is designed for servers; and its \$259 EtherPower 10/100, a dual-mode standard and Fast Ethernet card.

SMC plans to offer the Mac PCI driver as part of its bundle that will include drivers for Novell NetWare, Unix and Windows.

SMC joins third-party companies Asanté Technologies Inc., Dayna Communications Inc., Digital Equipment Corp., Farallon Computing Corp. and Rockwell Networking Systems in announcing it will supply Ethernet PCI cards for the Mac.

Standard Microsystems Corp. of Hauppauge, N.Y., can be reached at (516) 273-3100 or (800) 762-4968; fax (714) 707-2460. □

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Media 100 **** 4-star rating
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MacWEEK - March, 1995

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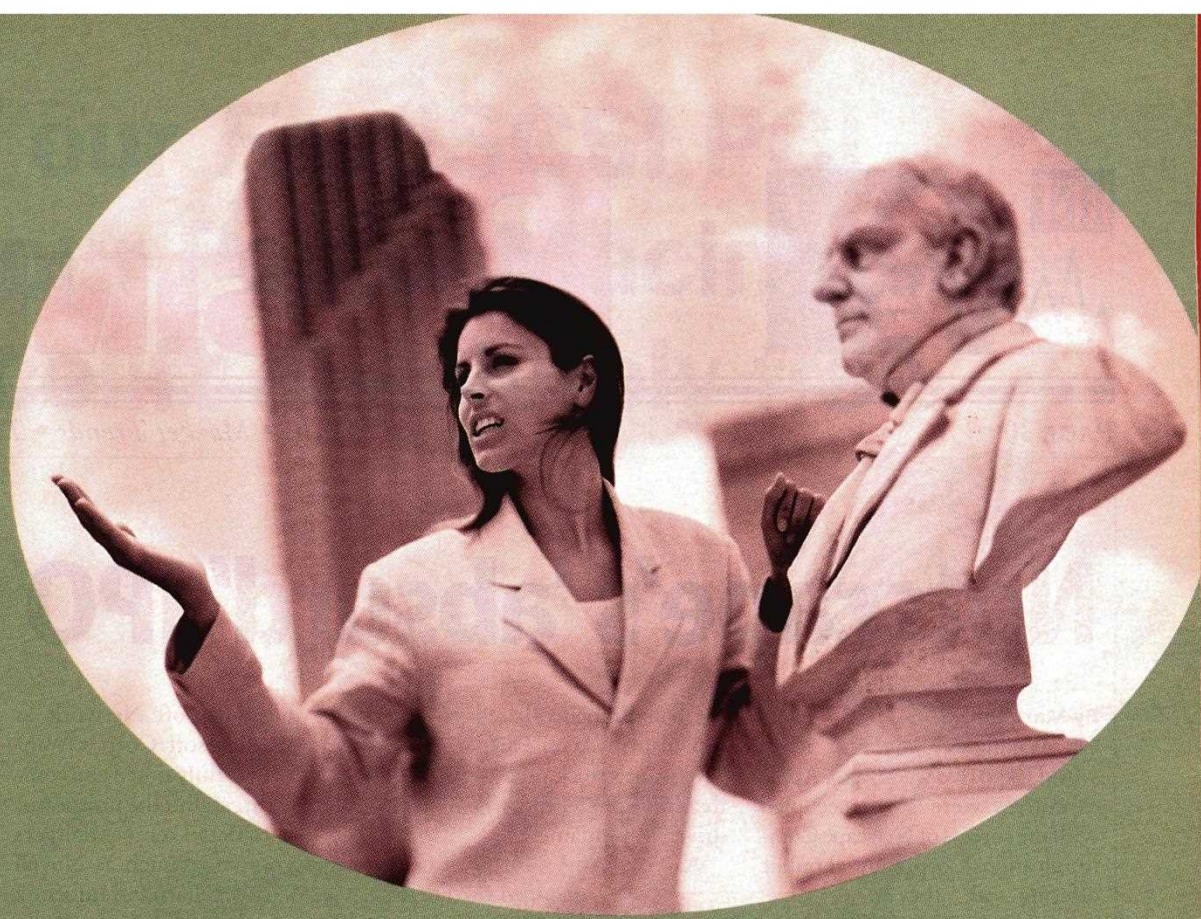
Media 100 - 9.1 rating
(Award of Excellence)
Media Suite Pro - 7.6 rating
DV Magazine - May, 1995

Data Translation, Inc., headquartered at 100 Locke Drive, Marlboro, Massachusetts 01752-1192, is the manufacturer of the Media 100 line of digital video products. Data Translation does not manufacture or distribute Avid products.

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here
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S Here.
T With your Power Mac.[™]
A Microsoft PowerPoint[®] 4.0
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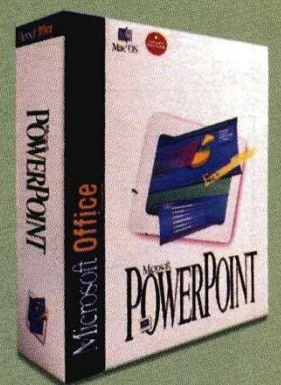
C Tools for creating content.
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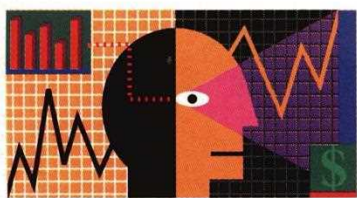
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E And you will
C Move them
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N Their hearts
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E Are made
S of stone.



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RECORD CROWD

A record 60,000 attended Macworld Expo in Boston this month.

— Mitch Hall Associates Inc.

PAGE 30

Financial Results • Market Trends • Transactions

08.21.95 MACWEEK

NEWS ANALYSIS

Netscape's 'absurd' IPO

By Mark Hall

On Wednesday night at Macworld Expo two weeks ago, Apple executives were as preoccupied with the success of Netscape Communications Corp.'s initial public offering as they were with their own activities in Boston.

Referring to the closing price of Netscape's stock after its first day of trading, one of Apple's top managers shook his head and said: "They're valued at 40 percent of us. That's absurd."

Observers were also scratching their heads in wonder at the scrambling for Netscape shares, which went to institutional buyers at \$28 a share but opened to the public at \$71 and jumped immediately upward to \$75 before closing the first day at \$58 per share.

Jim Breyer, general partner with

the San Francisco-based venture capital firm Accel Partners, said, "Netscape's stock price is well into the stratosphere, and it's not being driven by fundamentals."

As of Aug. 15, Netscape dropped further, to \$54.63 a share, which gives it a market capitalization of \$1.94 billion, slightly less than 40 percent of what Wall Street thinks Apple is worth.

Netscape's 12 pages of risk factors, which kick off its prospectus, outline a business minefield the company faces. More warnings are scattered throughout the remainder of the document.

Detailing risk is essential to any prospectus, but as one source put it, "Their lawyers were extra careful in this one." For example, the inclusion of browser software from Spyglass Inc. of Savoy, Ill.,

and the Microsoft Network as part of Microsoft Corp.'s Windows 95 was duly noted as a competitive threat. But the prospectus goes on to detail remote dangers from companies such as Novell Inc. of Provo, Utah, and Informix Software Inc. of Menlo Park, Calif., as well as CPU manufacturers such as Apple.

Media hype about the Internet has contributed to the frenzy surrounding Netscape's IPO, according to Rick Spence, on-line strategies analyst for Dataquest Inc. in San Jose, Calif. "Everywhere you go, it's Web this, Web that, Web everywhere," Spence said. "People feel they might have missed something, and they're looking for something to grab onto."

Spence said he is concerned that most investors are focused on Netscape's browser. "There's going to be a commodization of access products," he said.

See Netscape, Page 32

Mac managers grill Eilers at Macworld

By Mark Hall

Dan Eilers, Apple senior vice president of Worldwide Marketing and Customer Solutions, recently detailed how he intends his new organization to serve customers before an interested but somewhat skeptical audience of IS managers from large Mac sites and third-party developers.

Speaking at MacWEEK's semiannual Mac Volume Buyer event at this month's Macworld Expo in Boston, Eilers said: "We recognize that to serve the needs of the

enterprise we need different products, support and infrastructure than what's needed for the home. In the past we have always managed these differences through one amalgamated unit." He said such an organization had not succeeded for Apple in recent years.

Eilers also said that by creating individual vice presidents reporting to him for each market segment, Apple would be able to identify and respond to the product and

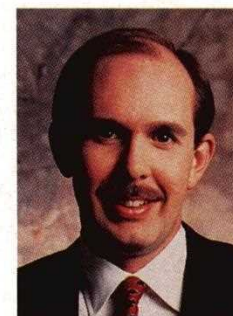
service needs of each customer group. These executives would have the knowledge, resources and authority to react rapidly to changing market conditions, he said.

Such an organization can't come too quickly, especially for the IS managers who were in the audience.

Fielding questions, Eilers was confronted by Stefan Pagacik, an in-house developer at New York-based Adams New Media, which was once 100 percent Windows and had, in two years, become 60 percent

Mac-based. Pagacik said that when he sought help for application development information, he "didn't get squat" from Apple, but when he called Microsoft Corp. he got a CD-ROM loaded with tools, printed information, a personal letter with contact information and an invitation to "call anytime." He asked, "Why can't Apple do this?"

Eilers admitted that Apple had fallen down on its developer support. See Eilers, Page 32



Dan Eilers, Apple senior vice president of Worldwide Marketing and Customer Solutions.

MacWEEK index MAC SOFTWARE SALES

Microsoft Corp. claimed four of the top 10 spots in sales for Mac software applications. Rankings were based on revenues from thousands of U.S. dealers in July.

RANK	TREND	PRODUCT
1	▲	Connectix RAM Doubler 1.5
2	▲	Microsoft Works 4.0
3	▲	Microsoft Excel 5.0
4	▲	Microsoft Word 6.0
5	▼	QuarkXPress 3.3
6	▲	Berkeley Systems After Dark 3.0
7	▲	Caere OmniPage Pro 5.0
8	▲	Claris FileMaker Pro 2.1
9	▼	Microsoft Office 4.2
10	▼	Novell WordPerfect 3.5
11	Unchanged	MYOB Accounting 5.0
12	▲	Casady & Greene Conflict Catcher 3.0
13	▲	Apple System 7.5
14	▲	Adobe Illustrator 5.5
15	▼	Macromedia FreeHand 5.0

Source: G. Meier Inc.

Buckley shares U.S. sales plans

By Jon Swartz

Apple USA President Jim Buckley shared his insights on the company's sales and marketing plans over a stack of flapjacks recently.

In a freewheeling conversation, the Buckley told MacWEEK that shelf space — or the lack of it — remains a top action item at Apple. He said the company is working on a program with developers and dealers to increase the number of entertainment, education and business titles on the Mac and then clear space on resellers' shelves for those new applications.

"The visibility of Mac titles at storefront vendors is a top priority," Buckley said. It may be prudent for software developers to ramp up their development efforts, based on Buckley's rough estimates of unit shipments for the rest of the year. He said de-

See Buckley, Page 32

Keast's demanding job

By Mark Hall

As Apple's vice president for worldwide product marketing, Brodie Keast has the unenviable task of capacity planning across the company's diverse product lines.

For years Apple has struggled to predict demand for Macs, but often it ends up with horrendous inventories of unsold products or frustrating months of CPU shortages.

In an interview with MacWEEK this month, Keast said Apple has to completely "re-



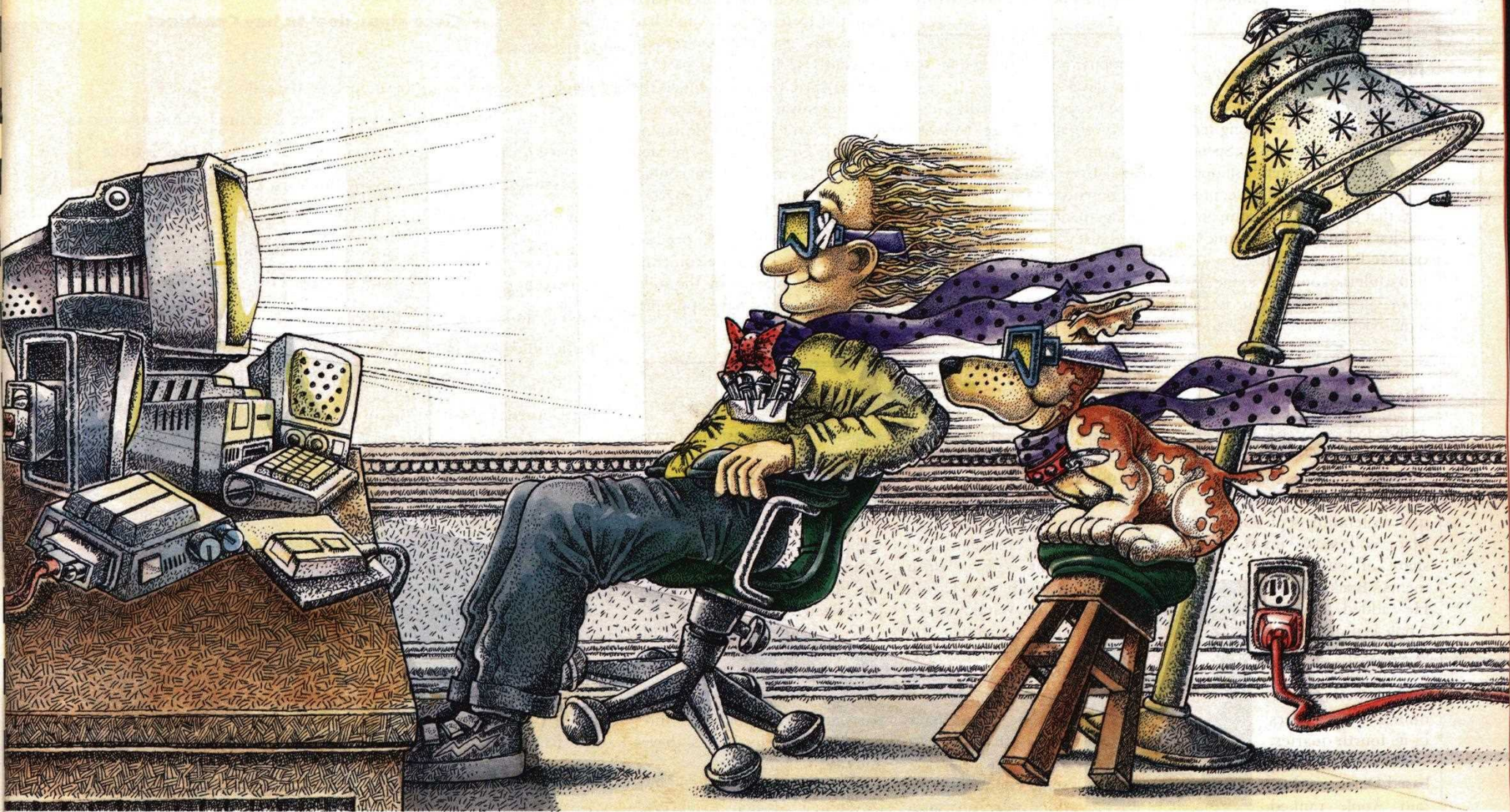
Brodie Keast, Apple vice president for worldwide product marketing.

think its processes and become much more aggressive at setting overall business targets.

"We need to compare ourselves to industry leaders," he said. "If they grow at 50 percent and we grow at 25 percent, Apple has a problem. We need to size Apple's business more aggressively and pick a bigger number."

Picking a big growth number is one thing; having the product infrastructure to accomplish it is See Keast, Page 32

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Eilers

From Page 30

port in the early 1990s because of difficult financial times. But he said the company had already recognized the problem and he promised that by the end of 1996

funding for developers programs would exceed that of the late 1980s.

Another person asked about the poor response time of 1-800-SOS-APPL. Eilers claimed that the average on-hold time for callers had been reduced to three

minutes, down from five, and that the goal was to get the waiting time under two minutes.

Eilers heard as much unsolicited advice from his audience as he did direct questions. A Mac manager from the U.S. Department of Defense said Apple had to increase its use of government standard technologies, particularly PCMCIA cards, which the Pentagon was using as the foundation for the Defense Messaging System. The manager suggested that Apple's management contact the National Security Agency.

Responding for Eilers, Dave Limp, Apple PowerPC product line manager, said the company had been contacted by the military and it would have appropriate products soon. □

Netscape

From Page 30

Knowledgeable investors are looking at Netscape's long-term possibilities, according to Spence. The company is currently shipping a half dozen client and server products that generated the company's modest \$4.5 million in revenue last quarter. But none of these products will vault the company to the class of an Apple. For that, sources said, it must deliver on its integrated ap-

plications and authoring tools still under development.

"Netscape is potentially one of the most interesting software companies to come along in years," Breyer said. "I rate its upside potential as an A. And its management gets an A."

Because of the post-IPO "quiet period" imposed by the Securities and Exchange Commission, Netscape could not comment on this story. □

Buckley

From Page 30

mand for the company's new Power Mac 7200, 7500 and 8500 models are "off the chart."

"By the end of the fourth quarter [ending Sept. 30], Power Macs will make up the lion's share of our shipments," Buckley said. He added that if Apple can steer clear of its recent product shortage problems, it could move up to 1 million Power Macs in its fourth quarter.

San Jose, Calif.-based Dataquest Inc. said Apple ranked third in U.S. computer shipments over

the past three months, with slightly more than 1 million. Compaq Computer Corp. of Houston was first, with 1.45 million units shipped.

A driving force behind CPU sales will be Apple's combative new advertising campaign. The print ads, which compare the Mac OS with Windows 95, mark something of a departure for Apple. Buckley said it is a sign of the times.

"The gloves have come off in the past year," he said. "[Personal computer vendors] are competing a lot harder than they were a year ago." □



Apple USA President
Jim Buckley.

Keast

From Page 30

something else. Keast said that by choosing the right markets and redesigning products around industry standards, Apple can achieve faster growth because components used in a slow-selling machine can be used in one that's hot. That has not been possible in the past.

Keast said Apple has already made the transition for most of its major product lines, pointing to the new Power Macs' common parts, such as internal IDE (Integrated Drive Electronics) drives and the PCI bus.

He said the company will also invest in cross-line inventories, including CD-ROMs and dynamic RAM. □

OFF THE WIRE



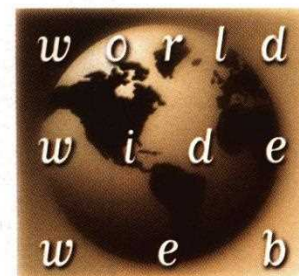
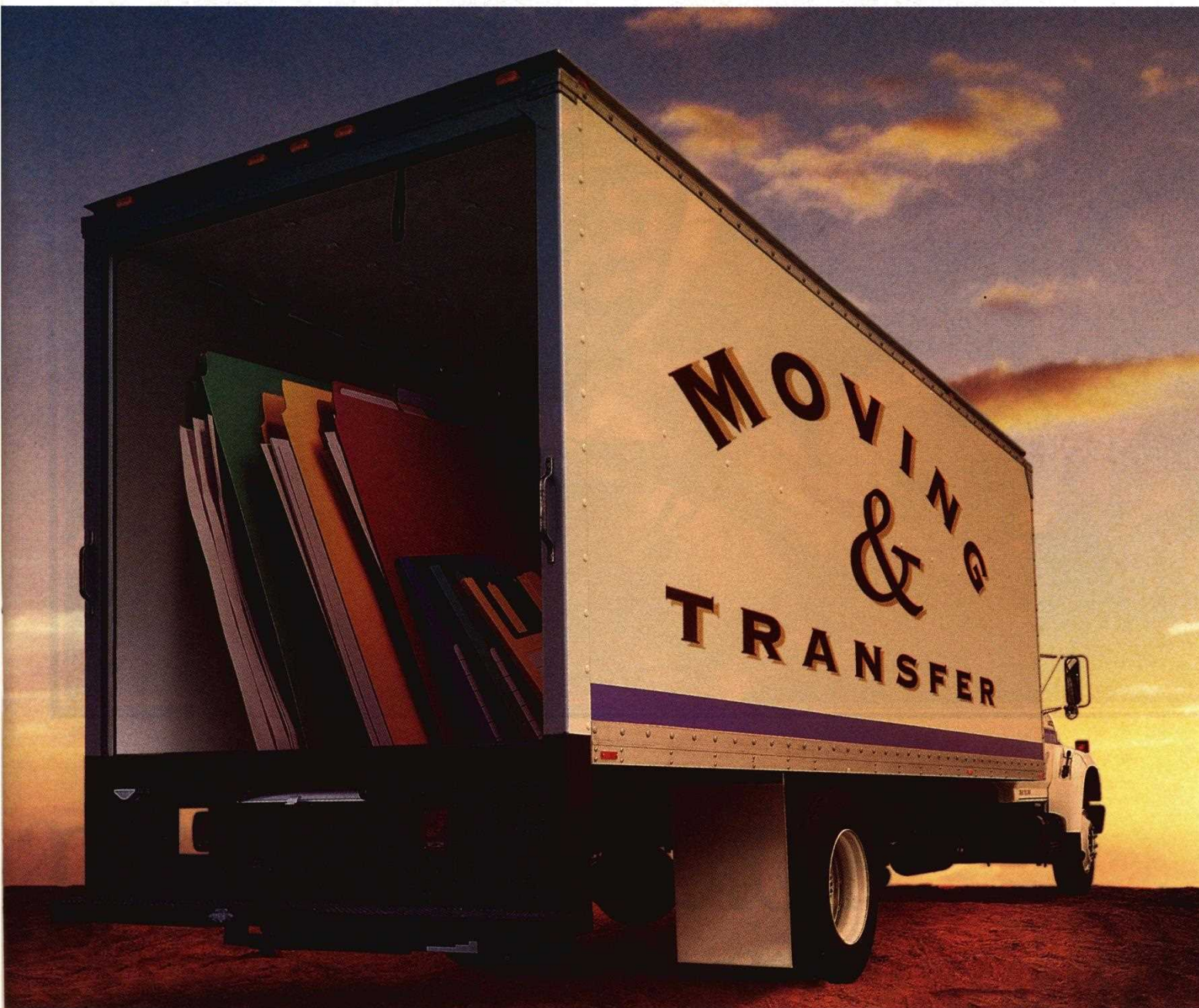
- ▶ **Power Macs outperform Pentiums**
- ▶ **Justice will not block Windows 95**
- ▶ **Cisco signs deal to buy Combinet**

Apple's newest Power Mac models — the 7200/75, 7200/90, 7500/100 and 8500/120 — outperformed their Intel-standard counterparts on average by up to 44 percent, according to **Competitive Assessment Services** of Huntington Beach, Calif. The Apple-commissioned report revealed that, among other things, the Power Mac 7200/75 performed graphics and publishing applications 62 percent faster than a 75-MHz Pentium PC. ... **Microsoft Corp.** scored a huge victory this month when the U.S. Department of Justice said it will not complete an antitrust investigation of Windows 95 by Aug. 24, the launch date for the new OS. The Justice Department said it will continue its probe, which focuses on Redmond, Wash.-based Microsoft's bundling of Windows 95 with its forthcoming on-line service, Microsoft Network. Industry observers said the government's announcement does not rule out eventual antitrust action. ... **Cisco Systems Inc.** of San Jose, Calif., said it has signed an agreement to acquire **Combinet Inc.**, a Sunnyvale, Calif.-based developer of ISDN remote-access networking products, for \$114.2 million worth of stock. ... Mail-order catalog titan **Micro Warehouse Inc.** of Norwalk, Conn., announced it has agreed to purchase **Network Express**, a Sarasota, Fla.-based catalog company specializing in data communications and networking products. Terms of the deal were not disclosed. ... A pair of key players in the channel reported record sales. **Ingram Micro Inc.** posted revenues of \$1.85 billion for its second quarter ended July 1, up 43 percent from \$1.29 billion in the same quarter a year ago. The Santa Ana, Calif.-based distributor, which is private, does not break out net income. ... **CompUSA Inc.** registered \$2.81 billion in fiscal 1995 sales, an increase of 31 percent from \$2.15 billion in fiscal 1994. The Dallas-based superstore recorded a profit of \$23 million, or \$1.21 per share, compared with a loss of \$16.8 million, or 92 cents, last year. ... **Apple Pacific** last week said it will provide \$1 million worth of technical support for the NGO Forum on Women during the United Nations' Fourth World Conference on Women in Beijing from Aug. 30 to Sept. 8. ... **Ingram Industries** of Santa Ana this month announced the formation of **InGenious Solutions Inc.**, an independent subsidiary designed to create the first industry standard of marketing production information for IS managers. ... Nine major retail chains, including **Software Etc. Stores** of Edina, Minn.; **Best Buy Co.** of Minneapolis; and **Toys R Us** of Paramus, N.J., this month said they will reject video games that have not been rated by one of two independent systems in use. However, seven national retailers have yet to say where they stand on the ratings issue. That group includes **Egghead Inc.** of Issaquah, Wash., and **CompUSA**. □

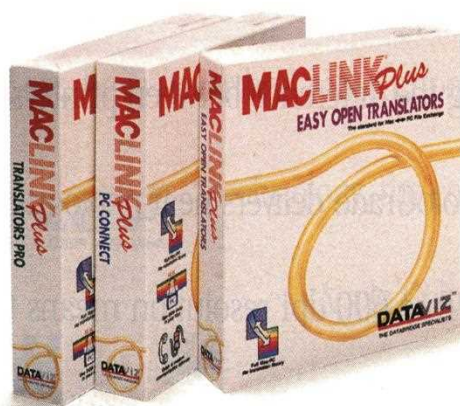
Used Macintosh prices

MODEL	CONFIG.	PRICE	MODEL	CONFIG.	PRICE	MODEL	CONFIG.	PRICE
SE	1/20	\$150	Centris 650	4/80	\$900	PowerBook 140	4/40	\$600
SE/30	5/40	\$400	Centris 660AV	8/230	\$1,050	PowerBook 145	4/40	\$700
Classic	2/40	\$275	Quadra 605	4/80	\$500	PowerBook 145B	4/80	\$700
Classic II	4/40	\$375	Quadra 610	8/160	\$600	PowerBook 160	4/80	\$900
LC	2/40	\$200	Quadra 650	8/230	\$1,200	PowerBook 165	4/80	\$1,000
LC II	4/40	\$300	Quadra 660AV	8/230	\$1,075	PowerBook 165c	4/80	\$1,150
LC III	4/80	\$400	Quadra 700	8/230	\$975	PowerBook 170	4/80	\$875
II	5/40	\$150	Quadra 800	8/230	\$1,575	PowerBook 180	4/80	\$1,300
IIx	5/40	\$350	Quadra 840AV	8/230	\$1,900	PowerBook 180c	4/80	\$1,600
IIcx	5/40	\$375	Quadra 900	8/230	\$1,300	PowerBook 540c	4/320	\$2,350
IIci	5/80	\$550	Quadra 950	8/230	\$1,700	PowerBook Duo 210	4/80	\$650
IIsi	5/40	\$300	Power Mac 6100/60	8/160	\$1,100	PowerBook Duo 230	4/120	\$750
IIfx	4/80	\$600	Power Mac 7100/66	8/250	\$1,500	PowerBook Duo 250	4/200	\$1,200
IIvx	4/80	\$500	Power Mac 8100/80	8/250	\$2,000	PowerBook Duo 270c	4/240	\$1,750
Centris 610	4/80	\$525	PowerBook 100	4/20	\$350	PowerBook Duo 280c	4/340	\$2,300

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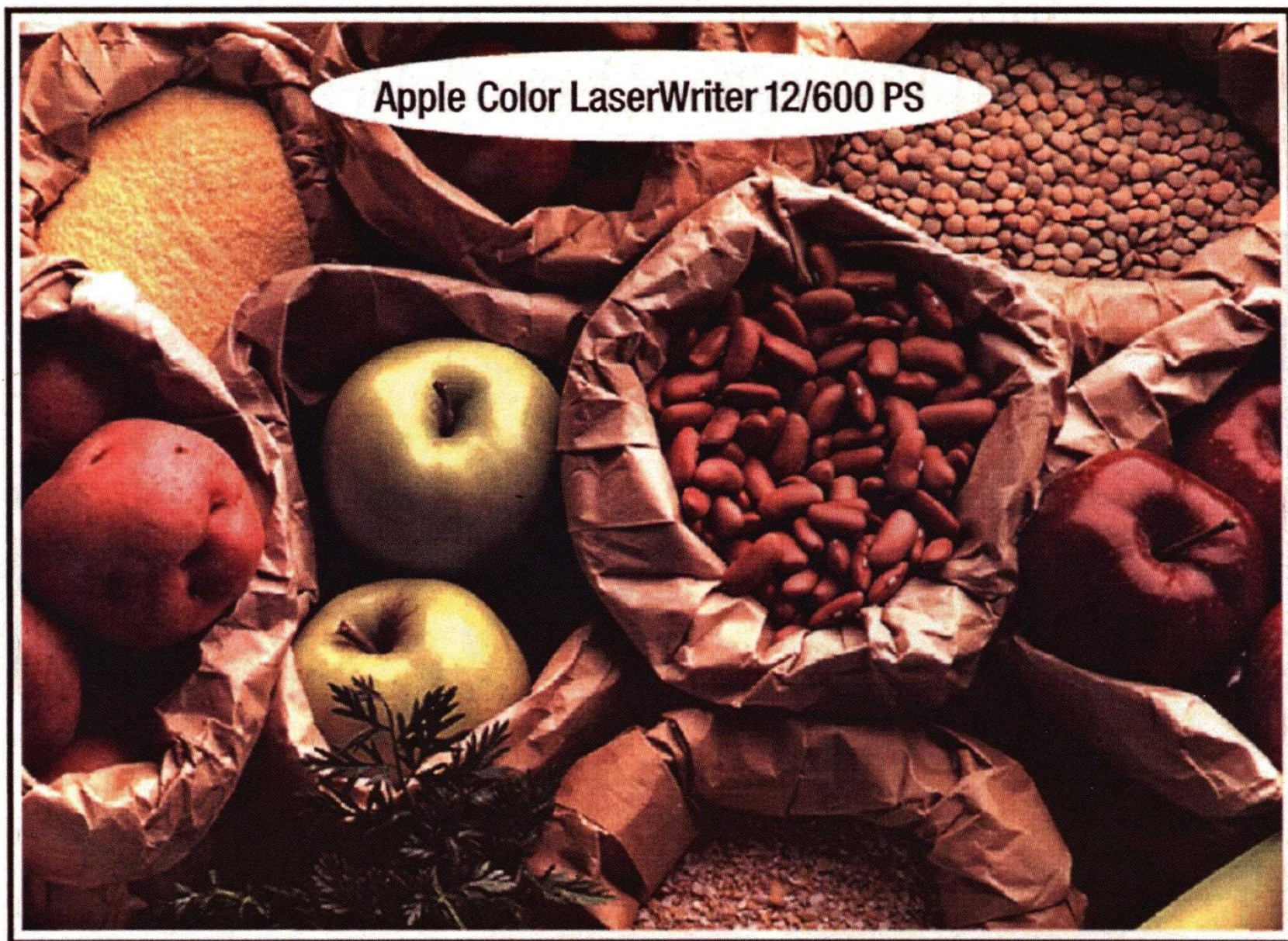


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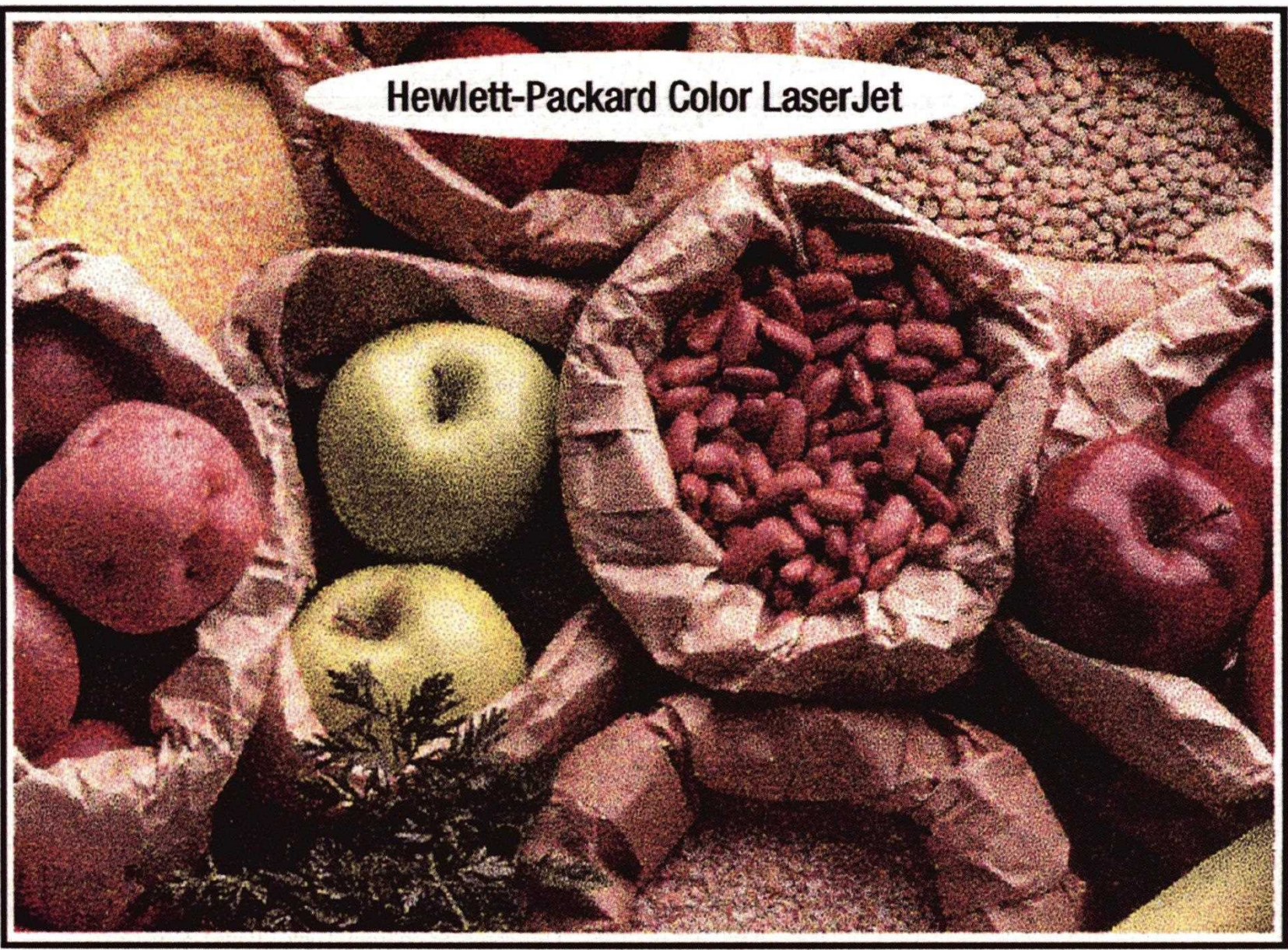
A picture is worth But for some reason, Hew

In this case, a picture seems to be worth slightly more than a thousand words. Because after seeing the difference between printers, we just couldn't keep quiet. As you can see above, the Apple® Color LaserWriter® 12/600 PS with Color PhotoGrade delivers near-photographic



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In the chips

It's been a while since we've heard something solid from the PowerPC processor manufacturers, IBM Corp. and Motorola Inc. But last week's report that the two companies are well along in the development of three PowerPC chips is excellent news.

The 604e, 603++ and 615 processors hold the potential for giving Apple and its Mac-compatible partners the CPUs to remain well ahead of Intel-standard machines for the foreseeable future.

To date, PowerPC processors have given Mac buyers only a slight edge over Windows users. Intel Corp. has been able to advance the performance of its Pentium chip, so computers designed around it have kept pace with PowerPC-based Macs in overall performance. Power Macs have proven far superior to Intel-standard boxes primarily in the area of graphics-intensive applications.

The 604e, said to be available in systems by next summer, should burn past all Pentium and most P6

devices by then. It will run at a cooler temperature, in part because the new CPU needs fewer transistors, making higher clock speeds possible. Also, it will have an improved cache, which will speed 680x0 emulation, an issue that will be with us for some time. Next summer should also see the release of Power Macs that will be able to take advantage of processors that run faster than today's 150-MHz limit.

The new 603++ promises to lift Apple's moribund PowerBook line. It will also improve the chances that clone makers will want to build Mac portables.

Finally, it appears that the long-rumored PowerPC-Pentium combo chip will emerge from IBM's lab next year. This processor, in conjunction with Common Hardware Reference Platform boards, could obviate the need to choose between one platform or another.

Of course, Intel is not resting on its laurels. P6-based systems should be reaching the market by then. But it's reassuring to know that there will be some substantial chip competition from Apple's PowerPC partners. □

THE SECOND DECADE HENRY NORR

Apple does more than just catch up in Internet market

Slowly but surely Apple is beginning to get it — "it" being the fact that the rush to Internet is not a passing fad but the beginning of a new era and the basis for a whole set of new opportunities for the Mac.

That's one conclusion I drew from this month's Macworld Expo. At last January's show, you could hardly tell, judging by Apple's offerings, that a revolution in communications and publishing was under way. This time the picture was different, right from the opening keynote session, when Apple's Cyberdog made its first public appearance and Apple Fellow Guy Kawasaki appropriately hailed PageMill, the new WYSIWYG World-Wide Web-page editor from Ceneca Communications Inc., as "PageMaker for the '90s."

Net-related products from Apple as well as third parties held pride of place at the company's huge pavilion at the expo. Featured prominently, along with Apple Inter-



net Server Solution (the Web-Star-based bundle), was the Apple Internet Connection Kit, Apple's upcoming Internet-in-a-box offering. Even eWorld got into the act with Web City, its new port of entry into cyberspace. And Claris Emailer brought a touch of cyber-excitement to the software subsidiary's separate booth.

Walking the dog

Ceneca's PageMill and SiteMill were the talk of the show; they're bound to strengthen the Mac's already strong position in the Web server market. And Cyberdog, by redefining the relationship between documents and on-line resources, should eventually have even greater impact. No doubt all these products will go cross-platform soon, but it sure is nice once again to see breakthrough software appearing first on the Mac.

By comparison, the Apple Internet Con-

nection Kit is just a catch-up effort: Auto-configuring all-in-one Internet packages have been the rage in the Wintel world for several years, while the Mac has had only a handful of service-specific options of this type. But for that very reason, it's important, and Apple seems to have done it well, assembling first-rate applications, completely insulating users from MacTCP and MacPPP, and putting Apple Guide to effective use. The package even takes advantage of the public-domain Internet Configuration System — striking evidence of Apple's new willingness to recognize great software even if not invented here.

Pippin wired?

Kawasaki said he wants to make sure that anyone who thinks "Internet" will think "Macintosh." That's a tall order, but here's an idea that could help. At expo, Apple showed prototypes of the Pippin and of its set-top box for interactive TV. Why not also offer a self-contained Internet access station — a mini-Mac with, say, MegaPhone and the Apple Internet Connection Kit (or better yet, Cyberdog) preloaded? If Apple could deliver it with a 28.8-Kbps modem and a small color screen built-in, at \$500, Kawasaki's wish might come true. □

Henry Norr, editor emeritus of MacWEEK, welcomes feedback in the MacWEEK forums on CompuServe or eWorld or at hnorr@ftp.macweek.ziff.com.



LETTERS

Speed is the key

Regarding guest editorialist G. Morgan Watkins (MacWEEK, July 31, Page 22): Mr. Watkins, I can relate.

I am a speed junkie. When I got my Power Mac 7100, I breathed a sigh of relief after using an old IIcx. The Power Mac was for me the nirvana that your Delta 88 was for you.

I still find myself waiting (EfiColor in QuarkXPress was a major snafu). However, I am now convinced that it's not the computer's fault. Sixteen megabytes of RAM should be enough to run three major programs.

I recently watched a special about the space shuttle on the Discovery Channel. I was amazed to learn that the first shuttle mission launched with four on-board computers, each with only 256 Kbytes of RAM!

If 256 Kbytes can fly a space shuttle, then why does a page-layout program require 3 Mbytes or more? I am sure that programmers could streamline their codes or that Apple could provide them with the tools and the environment for leaner, more efficient coding. Even Copland (System 8) is said to be leaner and less RAM-hungry yet offering more features. It can (and should) be done.

I want my computer to perform faster. I need it to because in the graphics world, fast turnaround is money. But as Mr. Watkins points out, we need to use what we have more efficiently. I can't imagine my pristine Power Mac being obsolete in five years, but with "fat" programming, it surely will be.

Joseph W. Duhamel

Computer graphic artist, Brewster, N.Y.

PageMaker meets its maker

According to TidBitS on-line news service, the new PageMaker 6.0 requires OLE. One thing is certain: Microsoft Office machinery will never put its ugly feet into my Macs. While QuarkXPress may have an unpleasant odor, with OLE, PageMaker definitely stinks. Aldus — sorry, Adobe — has goofed again.

Bertil Holmberg

Malmoe University Hospital
Malmoe, Sweden

The black hole of Apple

After many months of trying to persuade the school district for which I work that we should buy nothing but Apple computers, I was relieved to finally find that the board approved my purchase of a whole truckload of desktop machines, peripherals and, unfortunately, PowerBook 540c laptops.

My excitement came to a screeching halt

when I received a fax from Apple yesterday saying that the nine PowerBook 540c laptops that I had ordered were not available anymore and that I would have to call them for a "replacement."

I called, and the only replacement is the lower-level 520c. When I asked about the availability of the new PowerPC-based PowerBooks, I was told that "sometime in the fall, but they aren't telling us anything."

By discounting the top-of-the-line PowerBook months before it releases the PowerPC-based PowerBooks, Apple has put me, once again, in the ever-popular Apple black hole of product availability.

This is one point on which my Windows-arguing friends are going to win. Again.

David F. McKee, technology specialist
Ligonier Valley School District
Ligonier, Pa.

Do a background check

I read in a MacWEEK article (MacWEEK, July 24, Page 6) that "Novell said the application will handle most of the graphical features found in HTML 3.0, such as tables, blinking text and custom backgrounds." I'm sure I won't be the only one to point this out to you, but:

1. HTML 2.0 is not yet finalized, much less 3.0.

2. Features such as blinking text and backgrounds are supported only by the Netscape 1.1N browser. These features are not found in any of the HTML specs. They are not visible with any other browsers (and will break some).

HTML is the backbone of the World-Wide Web. It is the "universal language" that allows everyone to access the same documents, regardless of platform and software used. These Netscape-only tags are not legitimate HTML. They go against the spirit of the Web, as they are browser-specific. It is not good that Novell is adding to the use of this nonstandard HTML. It is worse that you are printing such blatantly wrong statements without doing any background checking. Here's a URL (universal resource locator) to check out to get an idea of what real HTML is: <http://www.w3.org/hypertext/www/markup/markup.html>.

Pris Sears

Virginia Polytechnic Institute
and State University, Blacksburg, Va.

How to contact MacWEEK

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THE MAC MANAGER DON CRABB

Apple makes promises, but does it keep them?

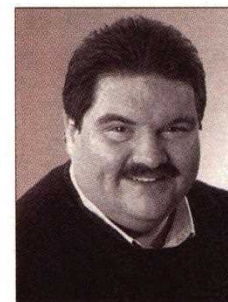
It's been 18 months since Apple brought out the first Power Macs, and they have been selling faster than Apple's most outlandish sales forecasts had predicted — 2 million since its launch and another million before the end of 1995, thanks to the faster, less expensive PCI-based machines.

But are we any closer in August 1995 to what Apple and the PowerPC alliance promised nearly a year and a half ago? Back then we were told:

1. The PowerPC would offer significantly more performance and serious price reductions compared to Pentium iron.

2. We should expect amazing new applications and interfaces to transcend our previous Mac user experience.

3. There would be PowerPC machines from many vendors, running all manner of operating systems, finally eliminating cross-platform problems at the source.



What have we done for you lately?

Well, we are still waiting.

As Henry Norr has written, "This is a problem." And Norr, falsely accused of gloom and doom, is being kind. No matter how much praise we give Apple for its wildly successful Power Mac sales to date, we and it are missing the point. All the Power Mac's sales success has done is kept Apple from sliding into a bigger hole than it would be in if it had stuck it out longer with the 680x0 CISC architecture.

Instead of owning about 10 percent of the worldwide installed base of personal computers, Apple would own about 9 percent, and maybe as low as 8 percent, if the 68060 had flopped.

How impressed are you now with the Power Mac's effect on the market? How secure do you feel in having adopted that

technology? How many PCI Power Macs are you going to buy? How tough will it be now to keep the march of the Wintel brigades from breaching your defenses?

Once I was stupid enough to believe that market share doesn't mean anything with regard to the Mac. Hell, the Mac is cool. It does lots of neat stuff that I can't do with any other computer. It really is for the rest of us.

All of which is worthless, unless the Mac advantage is translated into sales to new customers. If only one person out of 10 is using

the cool stuff, the message that the Mac will empower you won't be heard: What? I can't hear you over the roar of my word processing document whizzing by on my cheaper Packard Bell Pentium box.

The numbers don't lie and don't paint a very nice picture for us Mac folk. Entrenchment is a hell of a force to fight and, so

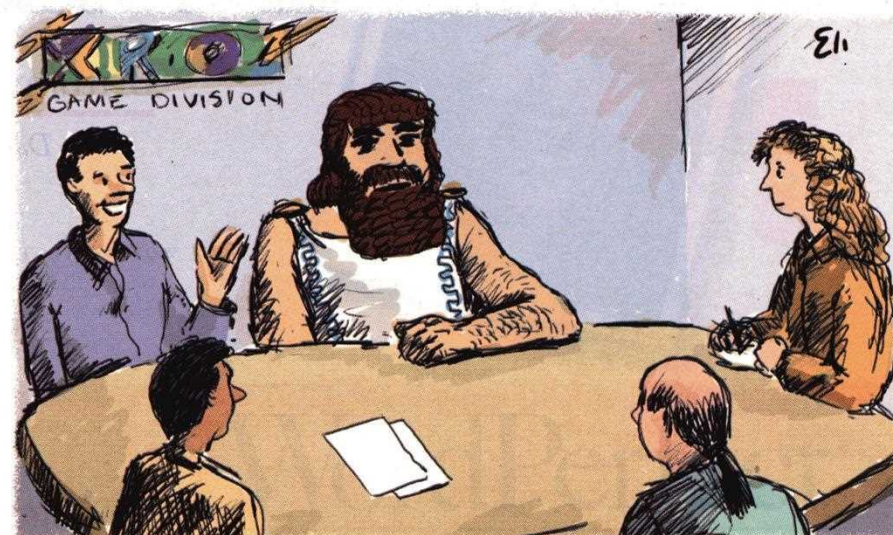
far, the Power Mac has done nothing to stop the entrenched Wintel machines out there.

Optimists say it has slowed it down some, and I'd agree. So Apple will go out of business in five years instead of three.

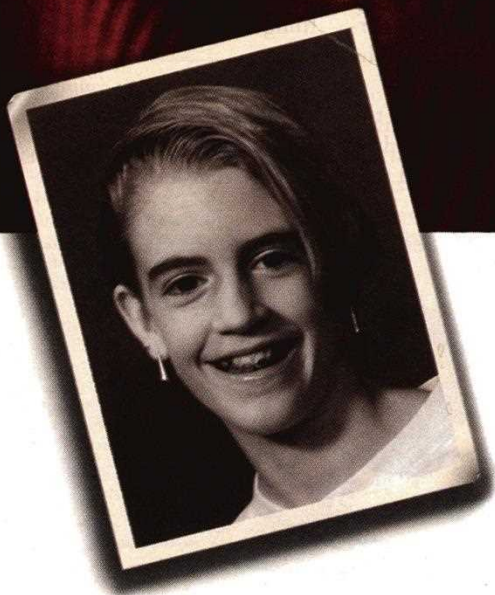
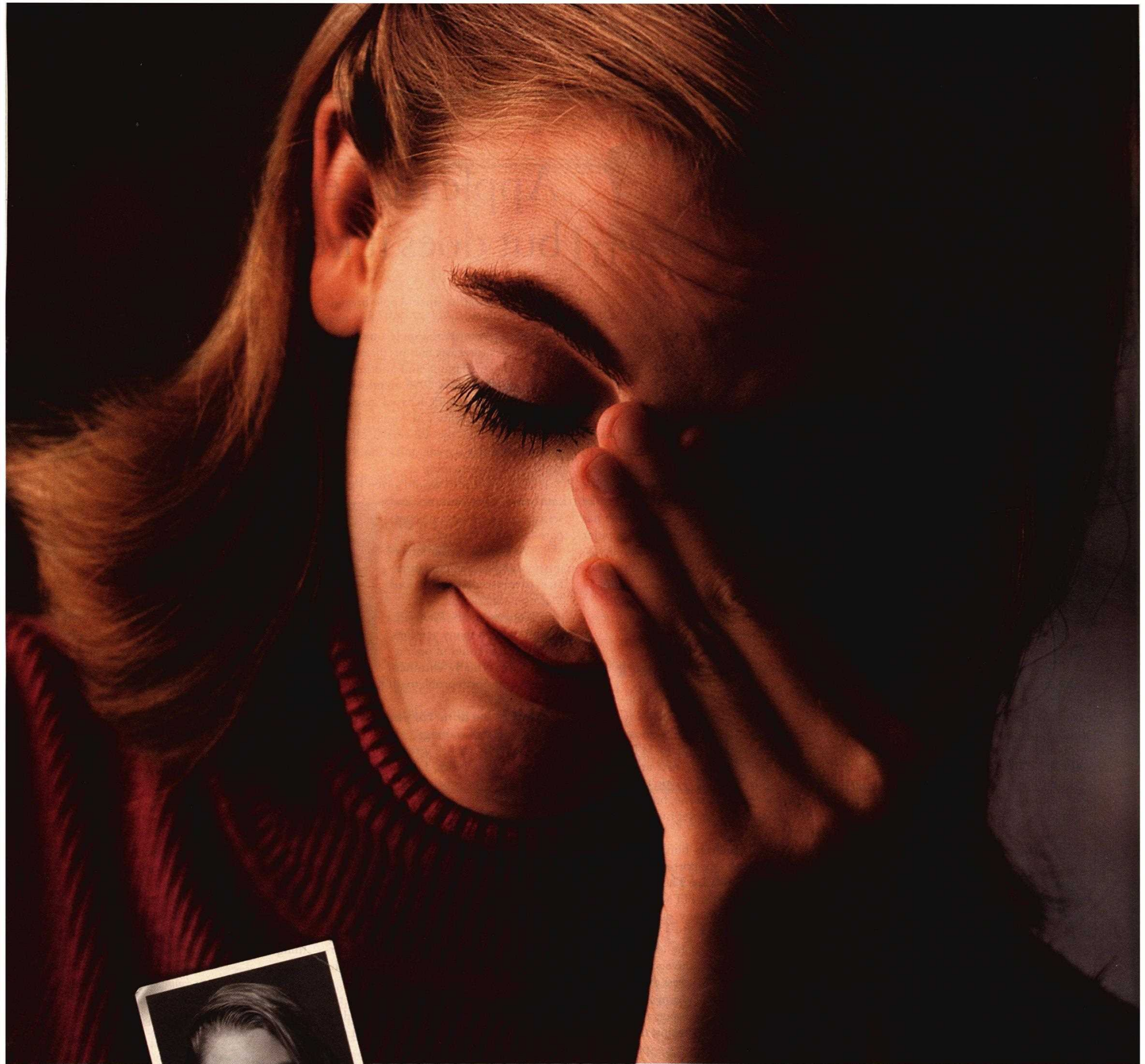
Comforting, isn't it?

Mac managers, you've got to fight to make sure that the superiorities still left in the tightly coupled Mac OS, in contrast to Windows 95, are exploited at every turn. Apple has to make the strategic decisions now to exploit its brand recognition and loyalty while it refocuses its Power Mac technology efforts to extract the inherent price/performance advantages it has over the Pentium. Anything less will be taps city. □

Don Crabb welcomes comments at his Internet address decc@cs.uchicago.edu. You can also check out his home page at <http://cs-www.uchicago.edu/~decc/>.



"I'd like to introduce to our design and concept team Mars, God of Computer War Games."



Brittany Stromberg

Dallas, Texas

WRITER

WORDPERFECT FOR MACINTOSH USER

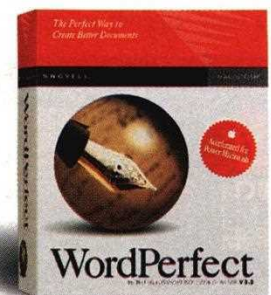
Used to have a tin grin.

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Ask Brittany Stromberg about her past with Microsoft Word and she just shakes her head. "I never even use it anymore," she says. "The interface really bugged me." Now she uses WordPerfect® for the Mac. It runs faster. Requires less disk space. And offers things Word simply doesn't. Like new version 3.5 with the ability to import and create your own Internet pages. Bookmarks for linking text. It'll even "speak" what you write. All good reasons to bury Word in the closet. Right next to those old prom pictures.

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REVIEWS

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Adobe Photoshop 3.04 is optimized for the 604 RISC processor in the new Power Mac 9500 and 8500.

MACWEEK 08.21.95

Evaluations • Benchmarks • Testing

PAGE 41

Authorware 3.0 writes new chapter on interactivity

By Ben Long

Macromedia Inc.'s Authorware, a multimedia authoring system that uses icon-based scripting, was originally created for and targeted at education and training. Version 3.0, with new features to ease development and create more-powerful presentations, aims to expand the program's reach.

At \$4,995, Authorware 3 isn't cheap. But by sheer volume, Macromedia may make you feel like you got your money's worth. The CD-ROM that holds the software and runtime modules also includes extensive tutorial and sample files as well as a library of clip images, sounds and controls. The manuals—six of them—walk you through all of the program's features and functions. And you also get the Di-

Macromedia's authoring app includes new Framework and Navigation icons and style sheets.

rector Multimedia Studio, which consists of Macromedia's Director (the company's other, more affordable authoring system), Macromodel and SoundEdit 16 as well as Fractal Design Corp.'s Painter 3.0.

Unfortunately, even with a major upgrade, Authorware is still not native on the Power Mac. Though performance is greatly im-

proved over the last version, we're disappointed by the lack of a fat-binary application. Macromedia said it hopes to make one available by the end of the year.

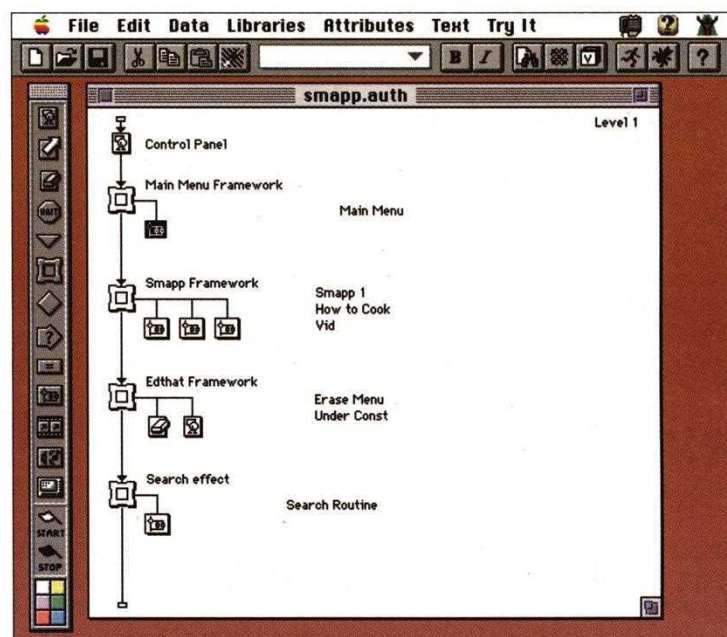
Flow control

Authorware is an icon-driven authoring package: To create interactive presentations, you drag different function icons to a flow line. A completed presentation moves along the flow line in response to the user's actions, following whatever branches and turns the developer has defined. This event-driven approach makes programming and debugging much simpler than the time-driven paradigm used by Director.

Everything the user sees on screen is represented by different icons on the flow line. Though Authorware provides very limited media-creation tools (squares, circles, lines and text), Version 3 has greatly expanded the developer's control of visual elements. For example, the new Button Library lets you import any graphic element and use it as a button. Different images can be loaded for each different state of a button.

The frame-up

As with visual elements, all interaction and logical control is



As with previous versions of Macromedia Authorware, you create interactive presentations in Version 3 by dragging icons to a flow line. The new Framework icon lets you attach multiple pages together into a complete, navigable environment.

also represented by icons placed on the flow line. Interaction and Decision icons let you change the direction of flow across the flow line, branching from one line to another.

One of the most important additions to Authorware 3 is the new Framework icon. Functioning sort of like a master page in a page-layout program (or the background layer in Apple HyperCard), this icon lets you define a consistent set of navigation tools for an area of your presentation. You

can attach separate pages to the Framework icon and easily search and navigate them with the Framework navigation tools. With the Framework icon, it's easy to create a lengthy series of pages, all with a consistent background and navigation capabilities.

Making this process even easier is the new RTF import capability. When you import RTF text to a page of a Framework, Authorware will automatically im-

See Authorware, Page 47

Claris delivers first-class universal e-mail package

By Ross Scott Rubin

The idea of the universal in-box is to have a single tool that can handle all communications on a computer. At \$89, Claris EMailer from Claris Corp. contrasts dramatically from PowerTalk, which Apple has billed as providing such capabilities in System 7.5. EMailer, a sleek, focused Mac application that resides outside the Finder, is useful even to subscribers of only one of its supported e-mail services. The product's real utility, though, is as a repository and mail-composing environment for multiple e-mail venues.

Aimed primarily at small businesses and home offices, EMailer connects directly to America Online, eWorld, CompuServe, the Internet (via Post Office Protocol 3

Emailer offers sleek, focused interface to manage all of your on-line services.

servers) and RadioMail and provides a common interface for sending and receiving mail. While the product was originally supposed to support AppleLink as well, this feature was dropped in light of Apple's recently initiated migration of AppleLink users to eWorld.

Emailer requires a Mac with at least a 68020 processor running System 7.0 or later. You also need to have an account with one of the supported on-line services.

Interview with a dialog

To determine which services you'd like to access through EMailer, the program initially conducts an interview that will likely send you back to your on-line services for more information. While the procedure is

See EMailer, next page

score card

Authorware 3.0

Macromedia Inc.
List price: \$4,995*
Overall value ♦♦♦♦

Continuing to improve an already powerful product is always difficult, but Macromedia has added many exciting new features to Authorware 3.0. The new Framework and Navigation icons make creating multipage presentations complete with navigation and searching tools almost automatic. The new Button Library makes it possible to create custom buttons and controls, while the new style-sheet features make implementing HyperText links a snap. Although Authorware's more-advanced features can be somewhat complicated, this is still the best program available for creating any type of interactive, multimedia presentation.

Performance ♦♦♦♦

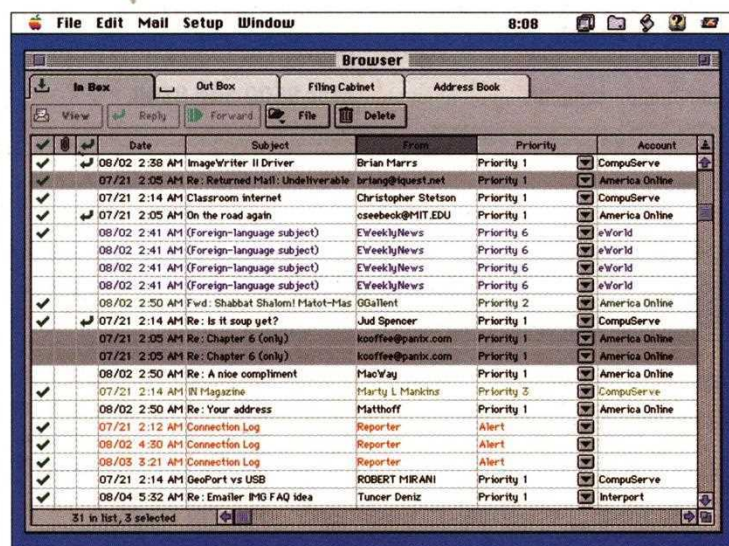
Features ♦♦♦♦

Ease of use ♦♦♦♦

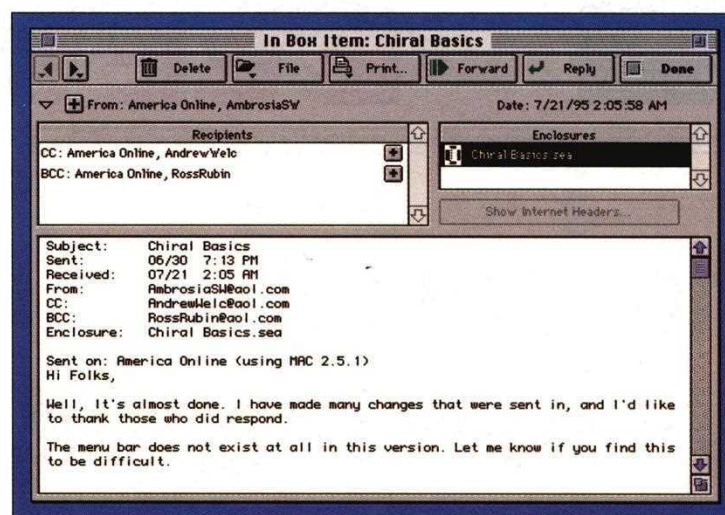
Documentation/support ♦♦♦♦

*Includes the Director Multimedia Studio (Macromedia's Director, Macromodel and SoundEdit 16, and Fractal Design Corp.'s Painter 3.0.) Registered users of previous versions of Authorware can upgrade for \$995.

Key ♦♦♦♦♦ Excellent ♦♦♦♦ Very good ♦♦♦♦ Good ♦♦♦♦ Fair ♦♦♦♦ Unsatisfactory



Claris EMailer organizes the mail it collects from America Online, CompuServe, eWorld, Internet and RadioMail accounts into a single spreadsheet-style grid. Mail can be sorted according to a variety of criteria, and you can quickly assign new priorities to your mail.



Emailer lets you drag enclosures out of incoming messages or drag them into outgoing messages. The program supports BinHex, uuencode, MIME and Base 64 file compression formats for exchanging files.

Emailer

From previous page

not arduous, we think EMailer could do a better job of detecting a user's services by scanning the hard disk for at least the America Online and eWorld applications; the presence of CompuServe Information Manager (MacCIM) or Netscape Communications Corp.'s Navigator would provide an indication of a CompuServe account. Furthermore, at least America Online and MacCIM upgrades can inherit the access phone numbers, access network (such as SprintNet or Tymnet) and address books of previous versions. We'd like to see EMailer more aggressively pursue this information without user intervention.

Emailer can import address files from any of the services it supports as well as from Navigator and Qualcomm Inc.'s Eudora. It also recognizes group addresses and CompuServe address-book comments. New users, though, would benefit from more guidance in locating the right files for importing.

Following the initial setup, EMailer's interface improves dramatically. Despite a widget-heavy 3-D interface, all the buttons

in EMailer are easily understood; the few modal windows are movable. EMailer's Browser window presents four clickable tabs for accessing the In Box, Out Box, Filing Cabinet and Address Book.

Clicking column titles lets you sort incoming and pending mail by date, subject, addressee, priority or account. You can also sort by whether messages have enclosures or replies. The Filing Cabinet lets you drag and drop mail among different folders (it cannot, however, create hierarchical folders).

Emailer's Address Book can display multiple addresses per person using a Finder-like outline triangle; we'd like to see the Out Box use a similar mechanism for viewing multiple recipients. We'd also like to see the Address Book support custom fields or provide a way to look up information from a contact manager.

Emailer provides fine control over when and where you log on. You can create multiple fixed or repeating schedules, but the application must be open to check mail. The program supports multiple connection settings for local phone numbers, while the Locations window lets you specify access numbers for different cities if you

plan on using the program on the road. The Destinations window lets you create shortcuts for popular Internet address domains, such as Netcom or Prodigy. Once set, the information for any on-line service can be changed from the Setup menu.

Class actions

One lure of a universal in-box that PowerTalk has not addressed well is a consistent set of rules for managing your mail. EMailer excels in this category via its mail actions, which outshine LAN-based e-mail packages such as CE Software Inc.'s QuickMail and even Eudora Pro. EMailer allows more criteria than Eudora Pro, lets you set specific priorities on incoming mail instead of just raising or lowering the priority, and allows automatic replies and mail forwarding with optional enclosures. This last feature allows you to create Internet-style

automatic responses that span a variety of addresses, but the "mailbot" response time will depend on how often you set it to check for mail.

Because this version of EMailer is not scriptable, mail actions are restricted to acting on mail itself and cannot affect other programs such as paging software or calendars. EMailer also cannot forward incoming mail to a PowerTalk in-box. This is unfortunate because EMailer's excellent on-line service support combined with PowerTalk's LAN gateways would create a more universal in-box than either product alone.

Performance

In our tests EMailer proved stable, practical and reliable, offering more powerful capabilities than any of the supported on-line services' client software. For example, America Online, eWorld and MacCIM all require you to click a button to browse their address books. EMailer automatically completes names as you type them and lets you drag in e-mail addresses from contact managers that support Macintosh Drag and Drop (such as Now Software Inc.'s Now Contact) or its own address book.

Its operation also shows an attention to detail. EMailer's reply and forwarding features, like their eWorld and AppleLink counterparts, automatically include selected text in a reply or forwarded message. A Paste As Quotation command lets you designate quotation marks with a character at the beginning of each line — a nice feature that would be better if it were configurable.

In general, EMailer's performance connection woes were in line with that of other client software. When it could not retrieve

messages because of host problems, it put an explanatory message in the In Box. One minor problem is that EMailer's lack of multiple fonts spoiled the effect of certain "graphics" embedded into America Online and eWorld mail, since these services use 1-point colored fonts to create their graphics.

We also preferred EMailer's interface to Eudora's for features such as filing mail. EMailer is a good Mac Internet citizen that can take advantage of information in the Internet Config extension if you have it installed. You can also drag and drop URLs (universal resource locators) from Navigator or the desktop into EMailer's address book or address fields, which will parse them perfectly.

Documentation and support

Despite its well-designed interface, which can display keyboard equivalents for buttons by holding down the Command key, EMailer would benefit from some on-line help or strategic Apple Guides. It does, however, place a helpful Frequently Asked Questions file in its folder. The thin manual includes an excellent appendix explaining URLs.

Claris offers technical support via several on-line services and the Internet. After navigating Claris' voice mail menu, we received prompt assistance from someone familiar with telecommunications issues.

Conclusions

While EMailer's initial scope of services is limited, it encompasses the most popular modem-based services for Mac users. For Internet mail, EMailer provides the first compelling challenger to Eudora Pro.

Those who rely on LAN-based e-mail more than on-line services and the Internet will do well to stick with their e-mail client or evaluate PowerTalk. Heavy users of multiple services, though, will find that EMailer's superior interface and features, transparent bridging of services, and industry-leading mail actions make it the best place to write, receive and manage their e-mail.

Claris Corp. of Santa Clara, Calif., is at (408) 987-7000 or (800) 544-8554; fax (408) 987-3932; info@claris.com. □

score card

Emailer 1.0

Claris Corp.

List price: \$89*

Overall value ♦♦♦♦

With EMailer, Claris has built a better mousetrap for electronic correspondence over on-line services and the Internet. The program provides a superior interface for exchanging mail with America Online, eWorld, CompuServe, the Internet and RadioMail users without the compromises of Internet gateways. Thorough drag-and-drop support facilitates Internet integration. Those struggling to manage multiple on-line accounts will appreciate the capability to take care of it all in one easy-to-use window. EMailer's setup procedure is a little laborious, and its mail actions need better AppleScript support to fully leverage their wide variety of criteria. Finally, if EMailer is to mature as a universal client, it will need to support leading LAN-based mail packages.

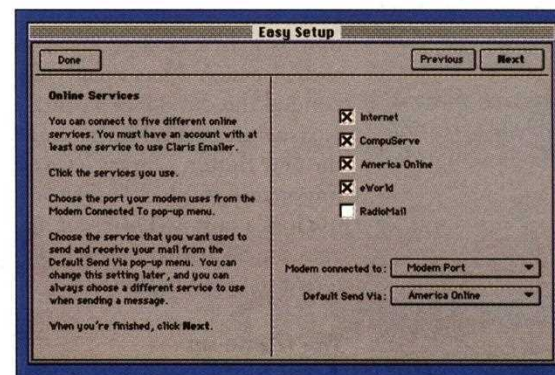
Performance ♦♦♦♦

Features ♦♦♦♦

Ease of use ♦♦♦♦

Documentation/support ♦♦♦♦

*\$59 for education users.



When you start EMailer for the first time, the program asks you a series of questions to collect the pertinent connection and account information for the services it supports.



Mail Message

Subject: The Final List
From: Bob Anderson@eworld.com
To: Royce Walthrop

Date: 95-08-8 16:06:34PDT

Here is the product list you needed.
Please call me as soon as you get it - I
need a response ASAP.

3 Echocardiogram Machines
2 Chemical Analyzers
1 Positron Emission Tomography scanner
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4 Colonoscopes
3 Defibrillators
12 Pulmonary Spirometers



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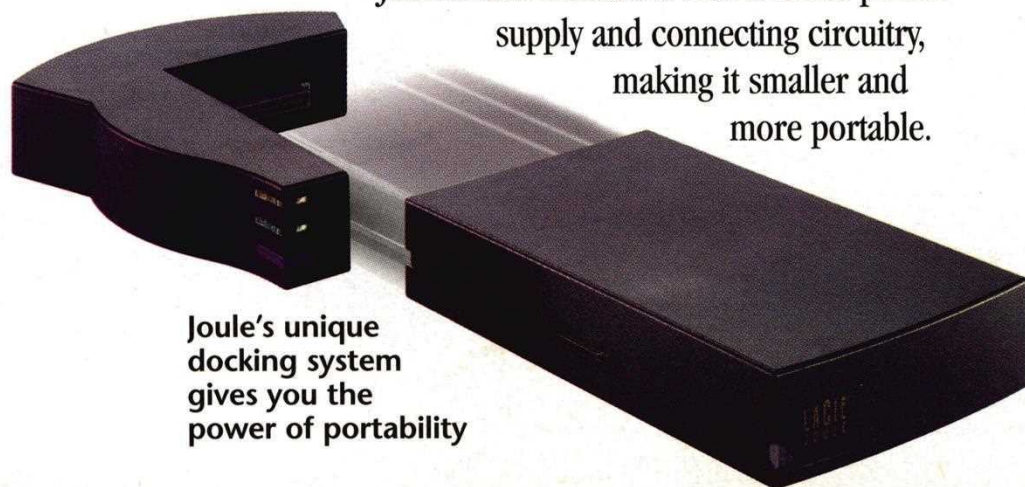
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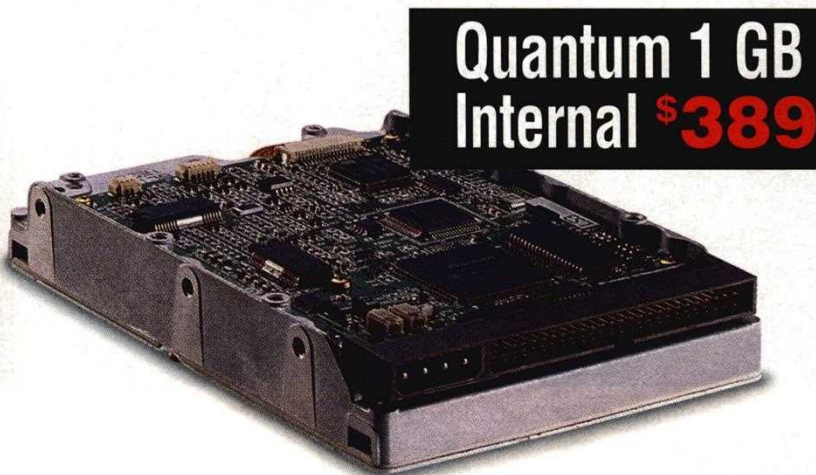


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Authorware

From Page 41

port the text and create a new page each time it encounters a page break in the RTF file. These new pages come with their own navigation and search tools, provided by the Framework icon. This allows for almost automatic creation of complex, multipage presentations complete with navigation and searching.

Also new is the Navigate icon, which lets you create jumps from one place in a file to another. This icon can be used to go to specific pages, return to recently visited pages or branch to a particular page as a result of a calculation. The Jump and Call features of the Navigate icon make it possible to branch to a subroutine, perform some instructions and then automatically return to the calling routine.

Several new features in Authorware 3 make it easy to create hyperlinks of many kinds. Hot Spots can be defined as any location on the screen, while any object can be made a Hot Object that can be easily programmed to perform actions or branch when clicked.

Authorware 3 now supports text style sheets, which makes it easy to ensure identical formatting across multiple screens of a presentation. The sheets also let you define some styles as Interactive. An Interactive style can have a branch associated with it so that when you click on text of that style, branches flow to the indicated location.

Creating text links this way is incredibly simple. No scripting is needed to determine which word the user selected; no hidden buttons have to be placed, and text can stay in its standard, editable form.

Some assembly required

Although developers new to Authorware will be able to create simple presentations quickly and easily, creating more complicated pieces requires some work.

Learning to "read" a flow line takes practice and experience. A new debugging window makes learning easier by letting you step through your presentation one icon at a time.

Hidden even further behind Authorware is some very sophisticated programming functionality. A Calculation icon lets you place segments of scripting code at any point along your flow line. This code can include anything from simply storing a value in a variable to calling a system function (such as Quit). More-complex struc-

tures such as If/Then/Else constructs and Repeat loops are also possible.

The program contains an extensive battery of built-in functions and variables, including many new functions not available in previous versions. The Mac version even supports HyperCard external commands, enabling you to add functions and procedures to Authorware.

Although it's not necessary to use these higher-end features to create simple presentations, users with more complicated needs will still require some rudimentary programming skills. Experience with HyperTalk, Lingo or BASIC will make your authoring go a little smoother.

The program includes very good, extensive documentation covering all of Authorware's capabilities, and the reference guide provides detailed explanations of all system variables and functions. But probably the best way to learn how to put an Authorware presentation together is to browse through the portfolio of Authorware pieces included on the CD. Not all of the presentations are interesting, but they all reveal small tricks of scripting and structure that will make your authoring much easier.

Making the grade

For educators and corporate trainers, extensive performance-tracking features let you designate right and wrong answers, responses, and actions. Number of hits, percentage correct and other data are automatically tracked in Authorware and accessible as system variables via simple scripts. Further, this data can be exported as text files for analysis and review in other applications. A clever scriptor can even create a presentation that changes its flow based on a user's performance, automatically stressing practice in areas where the user is weak.

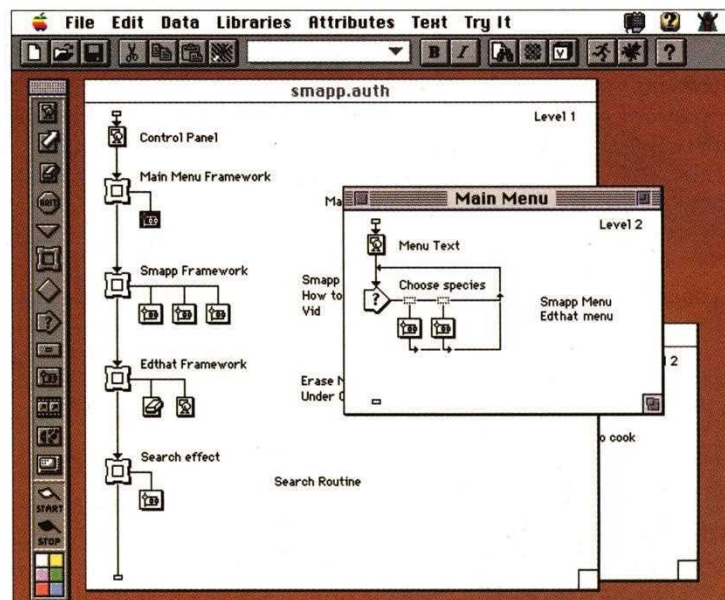
When your presentation is finished, Authorware's Package command can create a stand-alone application that includes roughly 800 Kbytes of runtime code. If disk space is a problem, you can save the presentation without the runtime code and distribute it separately.

For the first time, Authorware is completely cross-platform compatible between Windows and the Mac. (An identical Windows version shipped at the same time as the Mac.) Authorware presentations can be moved between platforms, but you may have to translate some fonts and movie formats. Macromedia provides a set of cross-platform fonts in case you don't have your own.

Conclusions

There is no program as well-suited to the task of creating multimedia presentations and training materials as Authorware. You can easily create any style of interactive title. Seemingly every type of interaction and response is built in to the program and accessible with just a few clicks.

The program's event-driven approach makes debugging, restructuring and adding mater-



User input is controlled in Authorware through the Interaction icon. Possible controls and actions, as well as their results, are attached to this icon. Authorware automatically loops and branches as each control is invoked.

ial far simpler than Director, with which you must define what each frame of a presentation will look like. If you are using Authorware, you'll still want to have Director around to create animation and other visual effects. (Authorware 3 lets you import Director 4 movies.)

Macromedia likes to claim that no scripting is required to use Authorware. Though this is true for simple presentations, more complicated ones will still require rudimentary knowledge of such scripting concepts as variables, functions and logical operations. This is our biggest

complaint about Authorware. Much of its high-end power is only accessible by typing in short bits of code into fields of dialog boxes. We'd like to see an improved interface to these features.

Authorware has continued to grow into an impressive, if somewhat complex, authoring environment. It's no longer just for trainers and educators. If you can afford it, this is the program to use for multimedia development.

Macromedia Inc. of San Francisco is at (415) 252-2000 or (800) 288-4797; fax (415) 626-0554; macrop@macromedia.com. □

FotoFUN! prints images that look like real photos

By Rick LePage

Fargo Electronics Inc. has done well over the past few years bringing high-end dye-sublimation and thermal-wax printing technology down to a price that is affordable to many users. The company continues that tradition with a \$499.95 printer designed solely to print photographic images.

The concept behind FotoFUN! is a simple one: Because digital imaging has moved beyond the professional user, many people are dealing more and more with digital images — Photo CD files, scanned photos, pictures from digital cameras or on-line graphics — and would like a printer that can output the files in a photorealistic manner. With a street price of about \$400, FotoFUN! does that and more.

What's in the box

FotoFUN! is a descendant of Fargo's Pictura dye-sub and thermal-wax printer. Unlike the Pictura, FotoFUN! is solely a dye-sub printer, and it has a maximum printable area of only 4 by 6 inches — the standard

Dye-sub offers high-quality, photorealistic images at a reasonable entry price.

print size offered by most 35mm photo labs. It can also print 4-by-5-inch images and 4-by-6-inch images with a border, similar to the capabilities of most photo labs.

The printer is small — about 4.5 inches high, 9.6 inches wide and 7.5 inches deep — which means you can put it almost anywhere on your desk. It comes with a serial cable and a print driver that can be accessed by any application.

What you won't find in the box is a ribbon or paper. You'll have to buy that when you purchase the printer. Fargo sells a 36-print CMY ribbon and paper kit for \$34.95, which we think will be a shock to many of FotoFUN!'s core audience but is par for the course for dye-sub printing.

Fargo also offers a postcard kit and a package for applying printed images to coffee mugs. The mug kit will be of interest mainly to the Christmas-gift set, but the postcard and standard kits should have a wider appeal to galleries and graphic artists who want to print short-run color

See FotoFUN!, next page



Authorware 3's new Debug window lets you step through a presentation, where each location is displayed by name.

FotoFUN!

From previous page

pieces for announcements and presentations. (Neither the postcard nor the mug kit were available for testing at press time.)

Fargo said it will also sell FotoFUN! directly in a \$599.95 bundle with a set of print film; the postcard kit; and MicroSpot USA Inc.'s PhotoFix LT, a decent low-end image-editing application (see MacWEEK, June 12, Page 33).

INTEGRATE MACINTOSHES — with — Sun/SGI/HP

K-AShare — allows Macintosh computers to use a UNIX host as an AppleShare file server.

K-FS — enables UNIX users to access AppleShare volumes on a Macintosh.

K-Spool — allows Macintosh and UNIX users to share PostScript printers anywhere on the network.

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Server to
the Macs...

Setup and performance

Loading the ribbon will be a bit of a challenge for those used to the simplicity of a laser or inkjet printer, but it isn't especially difficult once you master the technique.

In addition to the CMY ink panels available for each print, each ribbon has a panel containing a clear coat of overlay material that is applied over the dye. Fargo says using the overlay will extend the life of prints, but you can choose not to apply it if you prefer the way prints look without it or you want your images to print faster. We preferred prints with the overlay, which were slightly glossier than prints without it.

Unlike most printers, FotoFUN! requires that you hand feed each sheet of paper for printing. You'll know the unit is ready to print when you hear the distinctive low hum of the feeder rollers, at which point you have 20 seconds to insert the paper into the slot in the front of the unit. Depending on the image size and the type of Mac you're using, printing can take from two and a half to four minutes, which is reasonable given the technology.

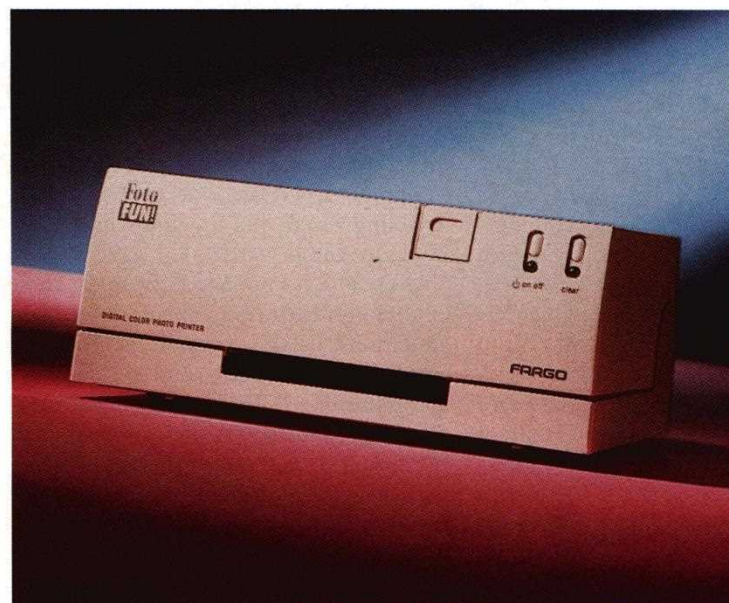
Because the dye-sub process requires heat to apply the dyes to the paper, and because it's likely that most users will print many images at a time, Fargo built a tiny fan into FotoFUN! to keep the device cool.

In our tests, we had a couple of paper jams over the course of printing five sets of ribbons, each of which resulted in a lost sheet of paper. In our experience, this is normal for dye-sub printers, but it is one that many low-end users will again have little tolerance for, especially when the prints cost nearly \$1 per page.

Image quality

FotoFUN! has a 203-dpi resolution, higher than other, more costly, dye-sub printers that print photographs, which gives it an additional edge along with its price. It also means that text will look better printed on FotoFUN! than it will on comparable dye-sub printers.

The quality of good scans and images printed on FotoFUN! was exceptional. We printed a number of scanned photos, Photo CD images and even World-Wide Web graphics on FotoFUN!, and, of course, the better the original image, the better it printed. We also printed images gathered from Eastman Kodak Co.'s Dig-



ED CALDWELL

Fargo's FotoFUN! is a nifty little \$499.95 dye-sublimation printer aimed at the consumer market. It lets you print high-quality color photographic images on glossy paper, postcards and (through an optional kit) coffee mugs.

ital Camera 40 (see MacWEEK, Aug. 7, Page 71) that were more than acceptable in most instances.

It's likely, however, that much of the intended audience will quickly get a real-world education in "garbage in, garbage out" when experimenting with FotoFUN!, especially as they roam the corridors of on-line graphics, which often have an appropriate resolution for screen display but don't extrapolate well to a higher resolution. This is not Fargo's problem, and, to its credit, the company attempts to explain some of these issues in an addendum to the sparse but satisfactory manual.

We also think that many midrange users of digital imaging software such as Adobe Photoshop will find that the quality of FotoFUN! is sufficient for use as a proofing device. It doesn't offer any real color-management system to speak of (a Fargo Color Match option in the Page Setup dialog box is briefly mentioned in the documentation with little explanation), but images we printed on calibrated systems were more than adequate for proofing purposes.

Conclusions

FotoFUN! is primarily aimed at the consumer, and, as such, it's a well-conceived and well-executed product, providing high-quality photographic output at a reasonable entry price. In many ways, FotoFUN! actually blows away the \$1,500-and-up offerings from Kodak and Nikon Inc.

that have a lower resolution but a more prestigious name backing the product.

Apart from some of the standard dye-sublimation technology caveats — occasional paper jams, high price per print — there is little stopping a recommendation for FotoFUN! Some users will be shocked by the cost of maintaining a dye-sub printer, and those who already have a modem and a printer will have to invest in a serial-port switch box or card if they don't want to swap cables frequently. Those points aside, for what it is, FotoFUN! is a cool little product.

Fargo Electronics Inc. of Eden Prairie, Minn., is at (612) 941-9470 or (800) 327-4694; fax (612) 941-7836; webmaster@fargo.com; http://www.fargo.com. □

score card

FotoFUN!

Fargo Electronics Inc.

List price: \$499.95*

Overall value ♦♦♦♦

With FotoFUN!, Fargo Electronics has done a nice job of delivering a product that has a simple role: to print photographic images at photographic quality. Even better, it does it at a street price of about \$400. The small dye-sublimation printer is aimed primarily at the consumer market, but print quality is actually decent enough that midrange users could consider using it as a proofing device, at a price more than three times less than its higher-end competitors. Those used to the inexpensive cost of liquid inkjet or monochrome laser printers might balk at the higher prices of the dye-sublimation printer kits required to feed their FotoFUN! habit, but serious image hackers will definitely be pleased with the results.

Performance ♦♦♦♦

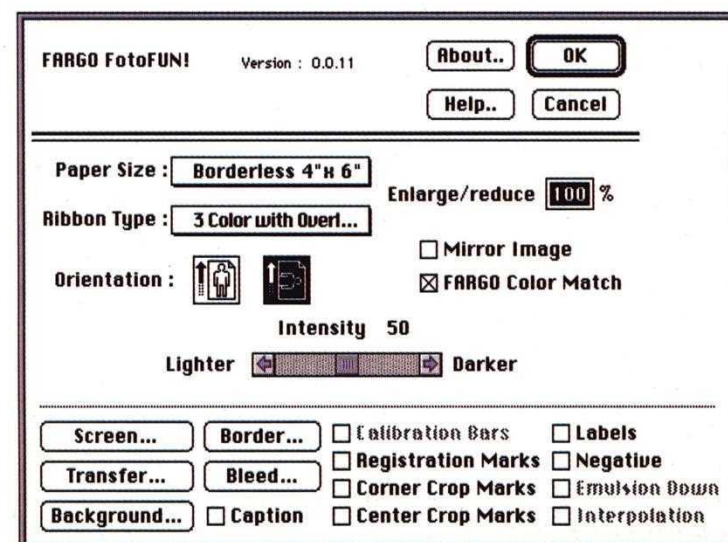
Features ♦♦♦♦

Configuration ♦♦♦♦

Compatibility ♦♦♦♦

Documentation/support ♦♦♦♦

*Also available direct from Fargo in a bundle with postcard kit, print media and MicroSpot USA Inc.'s PhotoFix LT for \$599.95.



The printer driver for the FotoFUN! allows you to choose the final print size — 4 by 5 inches and 4 by 6 inches (with or without a border) — and whether you want an overlay coat.

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IN BRIEF

Series 3 Screens Filter 1.2

Photoshop plug-in creates complicated mezzotints

Overall value ♦♦♦♦

Mezzotinting is a traditional printing process in which gray-scale images are screened through a patterned mesh. Similar to halftoning, it reduces a gray-scale image to a series of black-and-white shapes. Series 3 Screens Filter, the third in Andromeda Software Inc.'s series of Adobe Photoshop-compatible plug-ins, gives you the capability to create sophisticated, complex mezzotinting effects for any image. The plug-in costs \$159.

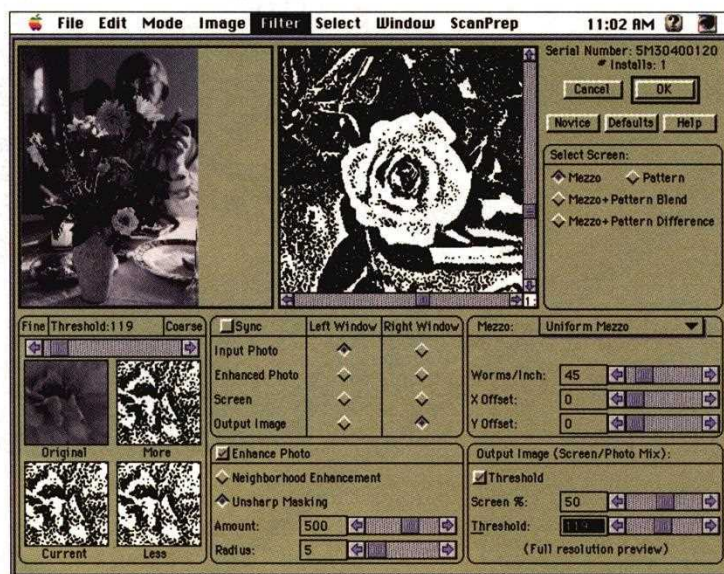
As anyone who has ever looked at a newspaper photo knows, a normal halftone screen reduces an image to regular patterns of varying-sized black dots. This process is necessary for printing gray-scale and color images on printers that can print only black ink.

Mezzotints, by comparison, use special screens that reduce your image to varying patterns of worm-shaped squiggles. Although this may sound like an odd thing to intentionally do to an image, mezzotinting can produce some beautiful effects. Depending on the frequency of your screen ruling, mezzotinted images range from soft, grainy, photolike images to stylized, heavily textured renderings.

But mezzotinting gives more than just a stylized look to an image. If your printing requirements dictate that you print with a coarse screen ruling (say, for a newspaper ad), mezzotinting will often give more detail and a sharper image than an equivalently ruled halftone. By tweaking the program's mezzogram features, you can bring out qualities in an image that will print well in even the most adverse conditions.

In space, no one can hear you Screen

Andromeda's Screens installs itself from a single floppy into your Photoshop Plug-Ins folder. Once installed, any image or por-



tion of an image can be screened by choosing Screens from the Filters menu. You access the filter's plethora of controls through its single dialog, which includes a zoomable preview of your effects.

To screen an image, you choose a type of screen and then adjust parameters to achieve an effect and texture you like. To get you started, Andromeda has included a vast range of presets, accessible from a Preset pop-up menu.

Examples of supplied presets include straight mezzotints; mezzograms, a variation of mezzotinting that produces screened effects with sharp edges, more contrast and better details; pattern screens, such as spokes and straight lines; and special effects, such as burlap and etching. In addition to the type of screen, a Lines Per Inch pop-up lets you specify the frequency of your screen.

As you select new options, the preview window lets you zoom in to your image to see the mezzotint patterns up close. However, to really see what your image looks like, you'll need to print it out. In fact, prepare to do a lot of printing as you experiment. Viewing images on your monitor simply can't reveal the detail that even a 300-dpi printout will show.

Calling your screens

If you've never been comfortable with the concepts of lines per inch, dots per inch and screen rulings, Screens' detailed manual will get you up to speed quickly — a necessary step for getting the most out of your mezzotint effects. Mezzotinting works best when applied to an image with four times the resolution of your desired output screen. While this may sound like you'll be creating very large files, remember that after screening, the files contain no gray. A 50 percent Threshold dither in Photoshop will substantially reduce the size of your files with no loss of image quality.

After you've chosen a preset that you like, a click of the Expert button provides a number of controls that let you fine-tune your screen. Screen frequency and threshold as well as contrast

and brightness adjustments let you tailor a screen to a particular image. Expert controls also let you access some of Screens' more complex capabilities, such as pattern screening, in which an image can be screened through particular shapes such as straight lines or spirals. The filter also lets you combine straight mezzotints with pattern screens to produce even more complicated effects. When you find a screen you like, its settings can be saved for later use through the Preset menu.

Andromeda's manual has a good tutorial as well as detailed theoretical explanations of the process of mezzotinting. If you need more help, the company's knowledgeable technical support staff will be able to answer your questions.

Conclusions

Mezzotinting can be a very beautiful and striking effect, and Andromeda's Series 3 Screens Filter 1.2 gives you all the power you'll need to create custom screen effects. The capability to apply different screen effects to separate parts of an image makes it possible to create complicated engraving effects and other screens that would be prohibitively difficult using traditional means.

Screens provides a lot of power in a nice interface and should prove to be a valuable new tool for any Photoshop user.

Andromeda Software Inc. of Thousand Oaks, Calif., can be reached at (805) 379-4109 or (800) 547-0055; fax (805) 379-5253; 70324.43@compuserve.com. — *By Ben Long*

VIP Scan 2.0

La Cie Ltd.'s business card scanner needs reading lessons

Overall value ♦♦

With the latest Macworld Expo under our belts and our pockets crammed with business cards, we were anxious to put La Cie Ltd.'s VIP Scan to work. As the only currently available business card reader for the Macintosh, we set our hopes high but were quickly brought back to terra firma by the limitations of the \$199 single-purpose scanner.

The VIP Scan, which uses MaxSoft-Ocron Inc.'s OCR engine, includes its own personal information manager as well as Now Software Inc.'s Now Contact 3.0. The scanner requires a Mac with at least a 68030 processor, 8 Mbytes of RAM and System 7; the company recommends 10 Mbytes of hard disk space.

Ready to read

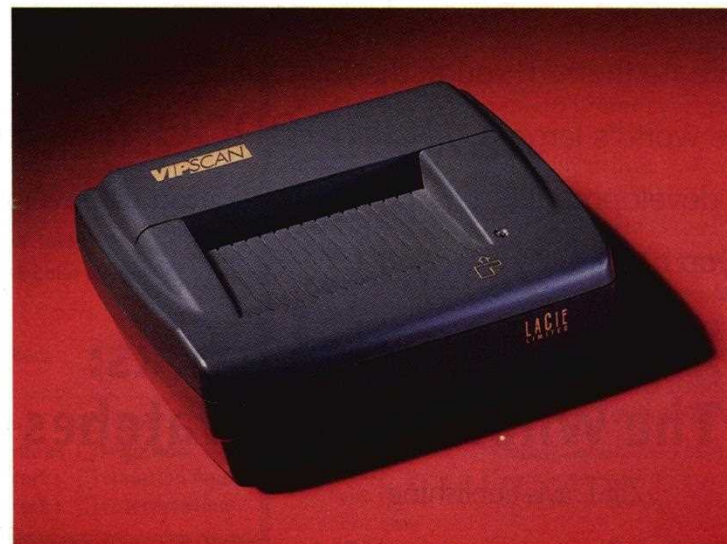
The compact scanner fits easily on all but the most rat-packed desks (it measures about 2 by 6 by 6 inches). It has two connectors in the back, one for power and the other for a SCSI connection. The SCSI ID and on-off switches complete the back panel. A barely discernible power LED is embedded next to the card-feed area.

Connecting the VIP Scan to your Mac and loading the PIM software is a snap; you can be ready to read in just a couple of minutes. The software is easy to use, with its straightforward icons and menu commands. Anyone comfortable with any Mac application will barely glance at the manual (and they'll be glad they didn't, but more on that later).

Here's my card

The VIP Scan reads cards one at a time. You simply place the business card with its text face down and push it until it stops, and then the scanner will grab it. As a rule, the scanner grabbed the cards we tested without incident, but on occasion the mechanism missed the card and proceeded to scan thin air, taking up computer time until the meaningless task was completed.

See VIP Scan, next page



La Cie's compact \$199 VIP Scan reads business cards and comes bundled with Now Contact 3.0. You load cards one at a time and can perform OCR immediately or defer it until later.



The Novice dialog box provides before and after previews and easy pop-up access to the filter's many presets. These settings let you create complex mezzotints out of the box.

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the fastest, most powerful
personal computer in the world.
Yet it still all boils down
to one thing.*





It's not how powerful the computer is.

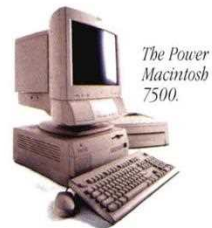
It's how powerful the computer makes you.



*Business Professionals,
Financial Consultants,
Marketing Directors,
Communicators,
Accountants,
You.*



Imagine having the power to use your computer for videoconferencing from one city to another with just a few clicks of a mouse. To see video run as smoothly on your computer screen as it does on your television screen. To create documents and presentations that contain photos, music and film, as well as words, numbers and graphics. It's why Macintosh is more popular than ever with businesspeople. And why now, with the Power Macintosh 7000 series, you have the power to take your ideas farther than ever.



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At the core of these machines lies the rocks-like-a-hurricane PowerPC™ processor. It's so fast that the new, ultrahigh-performance 604 RISC chip tested up to twice as fast as a dual 100 MHz Pentium chip*. It's also built onto a replaceable daughterboard, ensuring you an easy upgrade path.

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12 DRAM sockets

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Built-in 10Base-T and AUI Ethernet

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ColorSync 2.0

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120 MHz PowerPC 604 RISC processor

Processor upgradable via daughterboard

3 PCI slots

3 expansion bays

8 DRAM sockets

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1GB or 2GB Fast SCSI hard disk

Built-in video-in/video-out capabilities up to 30 frames per second

Built-in 10Base-T and AUI Ethernet



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7500

100 MHz PowerPC 601 RISC processor

Processor upgradable via daughterboard

3 expansion bays

8 DRAM sockets

16MB to 512MB of DRAM

Built-in video-in

7200

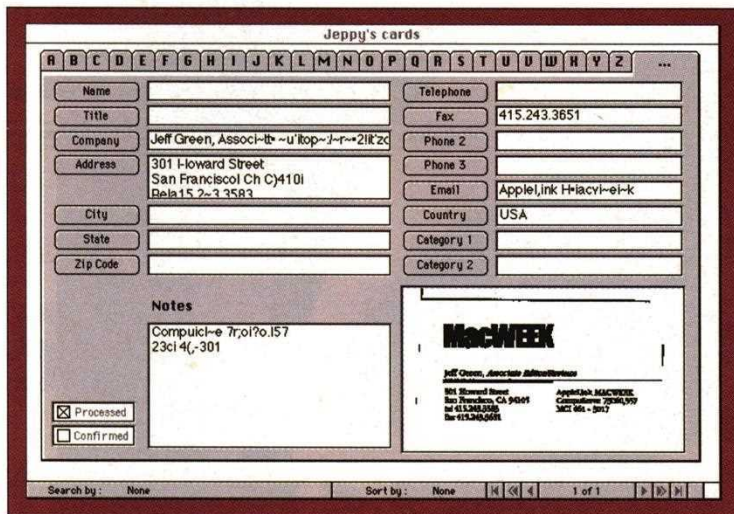
75 or 90 MHz PowerPC 601 RISC processor

4 DRAM sockets

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The proprietary PIM that comes with La Cie's VIP Scan is easy to use and understand. Unfortunately, the OCR process is erratic at best and often just plain bad, as evident in this poor interpretation of a MacWEEK business card.

VIP Scan

From previous page

The actual scanning time is brief, lasting just a few seconds. The VIP Scan can read cards that are printed on the horizontal and vertical planes, front and back. The OCR process takes considerably longer, about 20 to 25 seconds per business card.

If you're in a hurry, you can use the Deferred Recognition command from the menu bar to batch-scan business cards for later processing. You must still feed each card in one by one, but the time-consuming OCR work is put off until later. Of course, the actual time you ultimately save is nonexistent because the OCR process is identical. Still, this remains a useful feature for those who have just a few minutes to spare for scanning the cards.

Bak two the draw?ink bored%#

Despite simple and efficient scans, the VIP Scan is not breaking paths in OCR technology. Each time you scan a card, the VIP Scan's PIM creates a new record with blank fields; the OCR process attempts to put all the text on the card in its proper field in the record. Of the 120 cards we scanned (half on a Centris 650, half on a Power Mac 6100/66, both running System 7.5), only three had all the correct information written into the appropriate fields.

Most fields needed significant revisions, either by retyping or cutting and pasting, to ensure that the data was accurate. To try to improve recognition, we adjusted the contrast setting up and down but still found errors. We also switched between gray-scale and monochrome modes and found that gray scale worked the best.

We evaluated cards for type, embossing, design, color and other differences but could not determine a pattern for the errors. We scanned some cards multiple times, and each time the errors were a little different. One card that the scanner read perfectly on the first attempt presented wrong information when scanned a second time. In many cases, the errors were the same: "4" was read as "1," "1" as "c" and "g" was perceived as "%."

Each record holds an image of the scanned business card, so you can verify the information. After you've done so, you can check the Confirmed box and then delete the image, which takes up nearly 10 times the space as the data. (The VIP Scan

keeps the images in a separate file from the data files on your hard disk.)

Along with its own PIM and the bundled Now Contact, the VIP Scan has built-in export capabilities for Adobe TouchBase Pro, Claris Corp.'s Organizer 1.0, Symantec Corp.'s ACT! 2.0 and Attain Corp.'s FastPace Instant Contact. We exported VIP Scan files to the bundled Now Contact 3 as well as the more recent Version 3.5. Both versions imported the cards without any problems.

The VIP Scan has an additional link feature that lets you add each scanned card to Now Contact 3.5 as you enter it or at any time thereafter. By clicking on the tool bar's Link icon you tie the card to the PIM; you can then search for it like any record in the program. This feature works flawlessly and saves the time it takes to work through the import-export rigamarole.

Information underload

The documentation provided with the VIP Scan lacks detail that would be helpful, particularly for changing contrast settings. Some basic proofreading would have been helpful as well. Even worse, page numbers in the table of contents do not match those in the booklet.

La Cie's technical support phone line is generally crammed, so it's best to leave a message. When our call was returned, the technician was helpful but had not yet received a copy of Now Contact, so he could not assist us with our questions.

Conclusions

With the VIP Scan, La Cie has built a promising foundation for a necessary product around a very weak and slow OCR engine. On the positive side, the unit scans cards quickly, the enclosed software is easy to use and the integration with third-party PIMs is very good. As a device for inputting and managing the occasional handful of cards, the VIP Scan is an acceptable tool. But the recognition process is so slow and inaccurate that it's just not practical for scanning a lot of cards. When the OCR is improved, maybe it will be useful for more than those who input a few dozen business cards.

La Cie Ltd. of Beaverton, Ore., can be reached at (503) 520-9000 or (800) 999-0143; fax (503) 520-9100; <http://www.lacie.com/~lacie>. — By Mark Hall

Q2 1.1

Premiere plug-in improves sound of audio tracks

Overall value ♦♦♦

Waves' Q2 is an Adobe Premiere plug-in that provides sound equalization to help maintain high-quality audio in your desktop video and multimedia productions. The \$99 Q2 — a lighter version of the company's Q10 equalizer plug-in for Digidesign Inc.'s Sound Designer II software — has two bands of stereo parametric audio filtering to help fix any number of sound problems, including compensating for the low fidelity of a video camera's microphone and enhancing a muddy digital music recording.

Q2 does this by boosting or cutting specific audio frequencies within a selected audio file. Within Premiere, you use Q2 by just selecting your audio file and applying Q2 as a filter to your audio track. You can use Q2 on both 16-bit and 8-bit sound files.

Q2 requires either a Power Mac or a 680x0-based Mac with an FPU (floating-point unit), as well as System 7. It can be used with Premiere 4.0 and higher.

Features

Q2 has five types of filters that it can apply to each channel of a sound file: bell, high and low shelf, and high and low pass. Each of these filter types is useful in shaping your sound to eliminate noise or enhance fidelity. For example, with the bell filter you could reduce the sound of a buzzing fluorescent light by lowering the gain on the light's audio-specific frequency.

In Q2 you adjust equalization settings by entering the specific gain, frequency and Q parameters, or by dragging on one of two equalization bands in the graphic display. When dragging the equalization bands, you can adjust the bands for both channels or each channel individually.

You can hear the results of your changes in real time using Q2's preview feature, which plays back a small section of your audio file while continuously updating it as you change parameters. Q2 also allows you to save two different setups, so you can

compare the sound between the two.

While two bands of equalization per channel is good, it will not solve all audio problems. According to Waves, you can add more equalization channels to an audio file by adding in multiple versions of Q2. While this works, it slows down Premiere significantly. However, the company said it will also release its 10-band Q10 product as a Premiere plug-in later this year; we think this is a more appropriate tool for professional production.

Performance and support

We were very impressed with the quality of Q2's processing, which smoothly boosted or cut frequencies within the audio track. Another useful feature is the capability to apply different setups of Q2 to each audio track. One quirk that we found irritating in Q2 was its deviation from the standard Cut, Paste and Copy commands. Instead of using Command-C to copy a file, you just hit C; in fact, any of the usual Command-key combinations will not work. According to the company, this is an interface rule required by Digidesign's system, which does not allow for Command-key combinations.

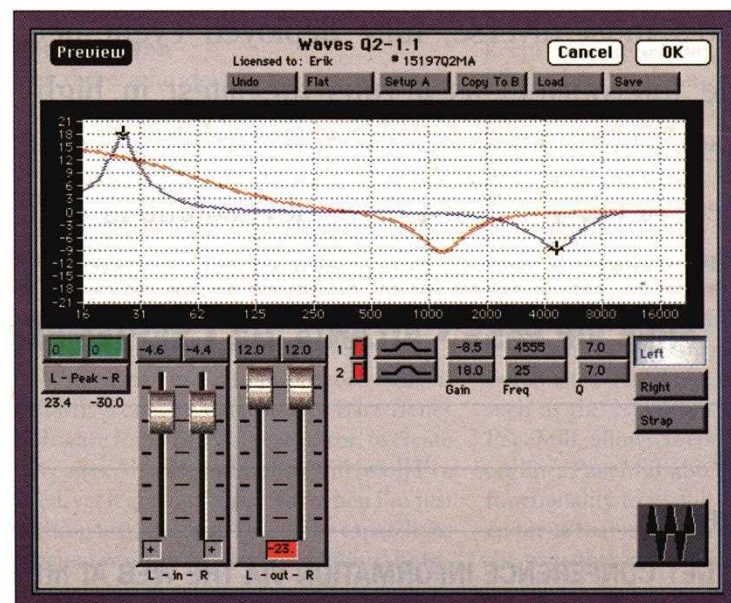
While Waves' technical support is good, the manual provided with Q2 is ridiculously short on information. The lack of audio terminology explanations and examples of how to apply Q2 to solve audio problems will alienate a number of first-time users. The company acknowledges that the manual needs updating; it said a new manual will soon be included with the product as well as available through on-line services.

Conclusions

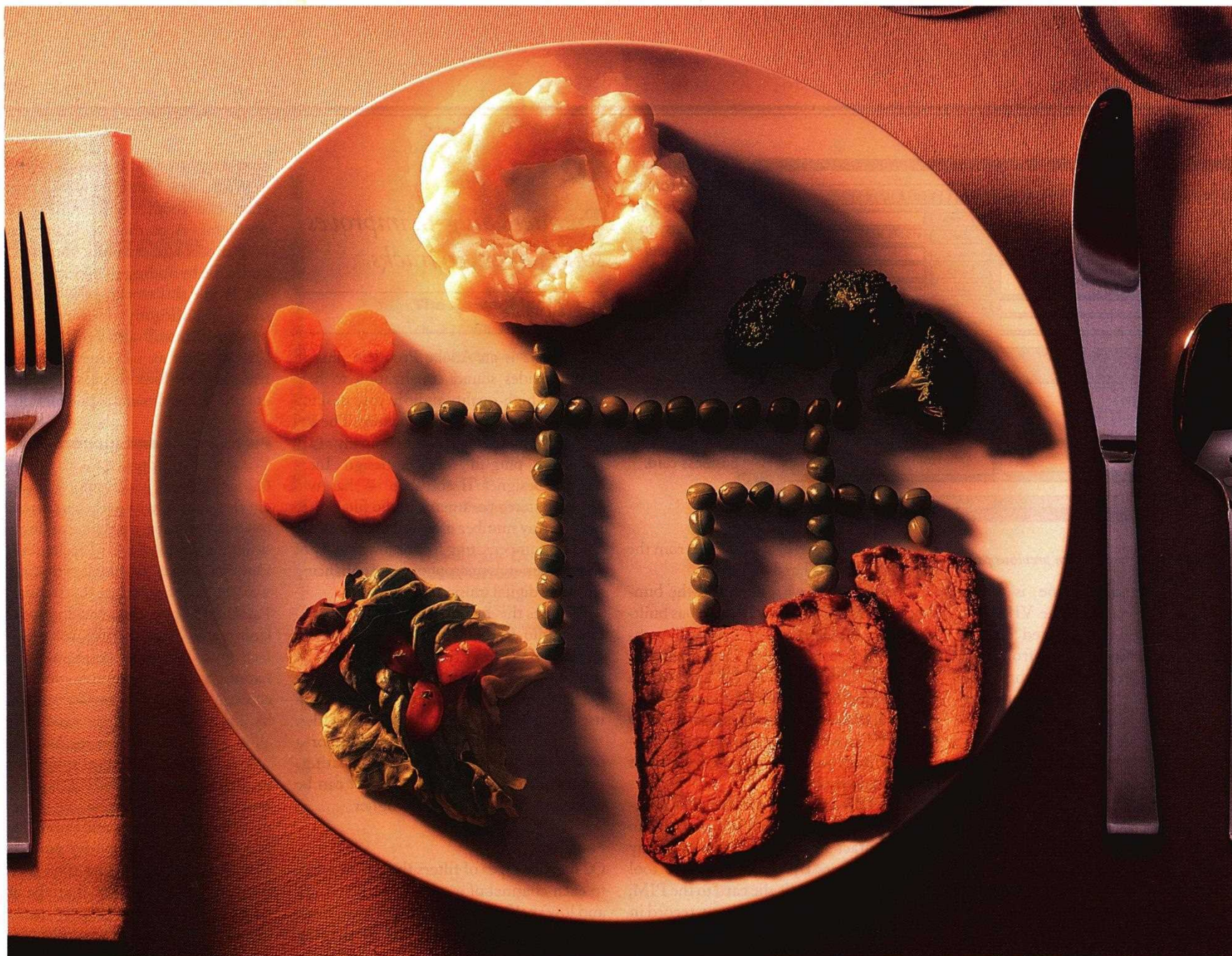
Q2 is a useful and much needed accessory to Premiere, which has long stressed video and graphics features over audio. However, if you are inexperienced with traditional audio equalization, you will find this filter fairly difficult to learn.

Still, if you want to improve the sound in your movies and either you know a bit about audio production or you aren't afraid to get your hands dirty, Q2 is a good audio addition to Premiere.

Waves of Knoxville, Tenn., can be reached at (615) 588-9307; fax (615) 588-9472; <http://www.waves.com/waves>; waves@waves.com. — By Erik Holsinger



Waves' Q2 equalizer plug-in for Adobe Premiere gives you two bands of equalization per channel. Here, the left channel was set up to boost the bass and to reduce some ambient noise in the high end.



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Stand-alone HTML editors evolving

"What we're dealing with in any Web site development or authoring tool is a cross between desktop publishing and word processing uniquely configured for the Internet," said John Strohl, a partner in CyberForge



See Solutions, next page

"I don't see commercial publishers as relying heavily on HTML for much of anything," said Jeffrey Tartar, editor of the industry newsletter Soft•letter. Nonetheless, the speed with which HTML can put pages up on the screen has yet to be matched by other file formats. — By Richard Rawles

MACINTOUCH RIC FORD

HyperTalk virus fingered, Apple delivers updates

Another HyperCard virus turned up recently, although it may not have spread widely. Labeled "HC 9507" by virus fighters, it infects only HyperCard stacks, starting with the Home stack and spreading to other open stacks and random stacks on the start-up disk.

Symptoms vary with the time and day, but the virus fades the screen in and out, types the word "pickle," and can freeze or shut down the system.

Some anti-virus programs, such as Disinfectant, Central Point Mac Tools and Virus Detective, ignore HyperTalk viruses and will not detect this one.

Others, including Symantec Corp.'s Symantec AntiVirus for Macintosh and Datawatch Corp.'s Virex, do detect HyperTalk viruses but need updated virus definition files for HC 9507.

These definitions are already available from Symantec and Datawatch and from some on-line services. You can download new definitions from Datawatch's BBS at (508) 988-6373 and from Symantec's SAM update server (using SAM's built-in update function) at (503) 334-4082.

The best single source of Mac anti-viral tools and information I have found on the Internet is the Info-Mac "vir" directory. Its

location in the America Online mirror is <ftp://mirrors.aol.com/pub/info-mac/vir/>.

Apple software updates

A variety of Apple software updates have appeared recently. An update for OpenTransport (to something like Version 1.0.6) should be available by the time you read this, and the new Power Macs (7200, 7500, 8500) may trigger additional updates.

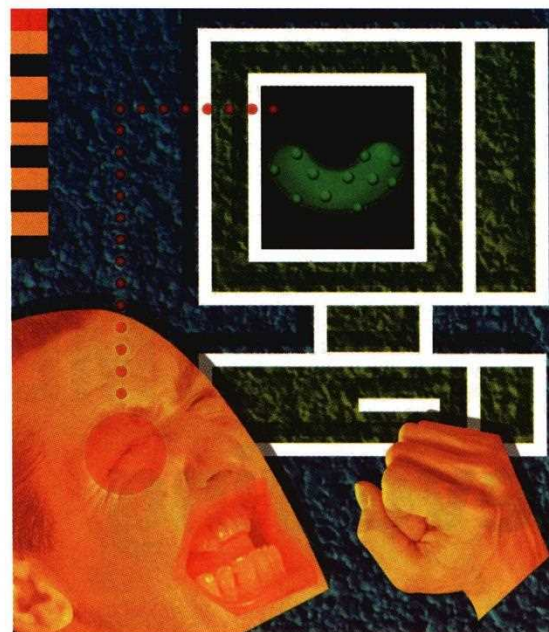
Desktop Printer Spooler 1.0.2 replaces an extension in the LaserWriter 8.3/Desktop PrintMonitor package to fix crashes with PowerTalk and printing failures with Novell's GroupWise.

One trick worth noting about Desktop PrintMonitor: If you use At Ease with Desktop PrintMonitor, keeping the old PrintMonitor in the System folder will enable printing when At Ease is running.

If your system is crashing with the new printing software installed, you may want to try reverting to the previous PrintMonitor. To disable Desktop PrintMonitor and its magic icons, you need to remove the Desktop Printer Extension file along with Desktop PrintMonitor. Unfortunately, Desktop Printer Extension does not appear in the Extensions Manager control panel, so you

The Info-Mac "vir"

directory is a good source for anti-viral tools and info.



GORDON STUDER

have to disable it manually.

StyleWriter 1200 2.0 is a driver released this spring for StyleWriter and StyleWriter II printers. It adds new features for halftoning, watermarks, "n-up" printing (multiple minipages per sheet) and printer sharing.

Color Tools 2.3.1 Update is a patch for a bug in the embarrassingly bad coloring tools shipped with HyperCard. HyperCard 2.3 is the native Power Mac version, and the bug in the Color Tools 2.3 stack occurs only on Power Macs.

Apple's CD-ROM Setup 5.1.1 utility supports the company's new quadruple-speed AppleCD 600 series drives, as well as older Apple CD-ROM drives. Updated multisession support accommodates the new CD Plus format (which adds multimedia to CD audio discs). All files in the package are new, so there may be other undocumented improvements, too. Note

that there are a few installation tricks documented in the readme file.

Apple recommends using Version 1.2 of its Japanese Language Kit with System 7.5. The kit lists for \$249, but upgrades are available to owners of previous versions for \$39 plus shipping and handling. Phone (800) 769-2775, Ext. 7856.

In addition to this update, a free Japanese Language Kit Updater for System 7.5.1 is available on-line.

The Chinese Language Kit Updater for System 7.5, Version 1.1.1, is compatible only with System 7.5. This floppy image is also available on-line.

All these updates are stored in Apple's Software Updates libraries on the Internet at http://www.support.apple.com/wwwdocs/apple_sw_updates.html and in other Apple support locations, such as eWorld.

Modern Memory Manager

Responding to my column about Modern Memory Manager conflicts (see MacWEEK, June 26, Page 46), readers reported specific examples of programs that crashed with Modern Memory Manager running Lotus cc:Mail and AppleGlot 2.1. Another program failed until it was converted to PowerPC code. New Macs may not support the old, compatible memory manager. □

Comments on MacInTouch are welcome at (508) 897-2621. Please address e-mail to 72511,44 on CompuServe or ricford@macintouch.com on the Internet. The MacInTouch home page is at <http://www.macintouch.com/~ricford/>.

SOLUTIONS

From previous page

URL (universal resource locator) without typing in the address.

In addition to site maintenance, setting attributes, such as background color for the body tag, requires professional-strength editors such as Softquad Inc.'s HoTMetaL Pro, not merely conversion tools. "It's a pain to manipulate or set those attributes in almost any of the other editors," Strohl said.

Most editors also provide some degree of rule checking, which prevents users from inserting tags improperly. Clicking the Insert Elements button in HoTMetaL Pro, for example, reveals a list of allowable tags. "That keeps you on the straight and narrow and in turn makes your document a lot more rigorous," Strohl said. Among converters, PageMaker 6.0's HTML author plug-in checks a publication for compliance with HTML and flags any inappropriate elements, such as multiple columns. It also allows users to create an equivalency table between styles created in PageMaker 6.0 and HTML styles, and it automatically loads HTML styles into the style palette.

Commercial Web editors, as well as Page-

Maker's plug-in authoring tool, display "inline" graphics (linked graphics) that have been saved in GIF (Graphic Interchange Format) or JPEG file formats. Savvy Web publishers advise budding authors to keep pages short and graphics small and to a minimum. "People tend to scan quite a bit on the Web; they don't like to get tied up on a big page all of a sudden," said Bruce Labovitz of Alexandria, Va.-based The ADvize Group. He recommends that clients use masthead-style strip graphics as headers rather than full-page graphics. "There's limited visible real estate on an initial load, so you want to get the most out of that," he said.

Strohl said that Web authors should keep the number of colors they use to a minimum. "If you can knock it down to 16 colors (rather than 256), you can radically reduce the size of the file," he said.

Not everyone agrees that stand-alone HTML editors are here to stay. Soft•letter's Tartar says that he believes professional publishers, frustrated with the limitations of HTML and the slow standards-building process, will turn to Portable Document Format (PDF) and other electronic page file formats with richer layout capabilities.

But PageMaker 6.0 is generating more interest with its HTML capabilities than

with any other single feature, including its support for PDF, according to Adobe Systems Inc. Wiederspan, who has previewed Ceneca's communications product, said he believes that stand-alone editors "when they're on the scale of what the Ceneca product is, which means that they completely manage everything that you need to do on a Web site," will prove invaluable. Network publishing, he said, "is a field that's already established itself, and you need something dedicated to it." □

PRODUCT INFO

ADOBE SYSTEMS INC.

Adobe Acrobat 2.0: \$195; **Adobe Acrobat Pro 2.0:** \$595; **Adobe PageMaker 6.0:** \$895
Mountain View, Calif.
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fax (415) 961-3769

BARE BONES SOFTWARE INC.

BEdit 3.5: \$119
Bedford, Mass.
(508) 651-3561; fax (508) 651-7584;
bbsw@netcom.com

CENECA COMMUNICATIONS INC.

PageMill: \$195; **SiteMill:** \$795

Palo Alto, Calif.

(415) 842-6810; fax (415) 842-6818;
info@ceneca.com

NAVISOFT INC. (AN AMERICA ONLINE CO.)

NaviPress: \$99
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fax (703) 918-1106; <http://www.navisoft.com>

NOVELL INC.

WordPerfect 3.5: \$189
Provo, Utah
(801) 225-5000 or (800) 451-5151;
<http://www.novell.com>

SOFTQUAD INC.

HoTMetaL PRO 2.0: \$99 through Sept. 30, \$195 after Sept. 30, \$59 upgrade for existing users
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fax (416) 239-7105; <http://www.sq.com/>

VERMEER TECHNOLOGIES INC.

FrontPage 1.0: \$595
Cambridge, Mass.
(617) 576-1700 or (800) 293-9564; fax (617) 576-1780; info@vermeer.com;
<http://www.vermeer.com>

Throughput boost bolsters Quebecor

By Larry Stevens

When Tom Wayman talks about a file, he's referring to something almost the size of some Mac users' hard drives. Wayman is the special projects manager at Quebecor Printing Inc., Orlando division, one of the nation's largest printing service companies. With jobs from companies such as Conde Nast magazines and J.C. Penney, the printer often has to handle pages nearing 100 Mbytes each.

While a LAN is usually the most efficient way to move files, that wasn't the case at Quebecor. Ethernet, in addition to the relatively slow file transfer capabilities of Mac workstations, resulted in agonizingly slow movement of files on the network. In fact, no one at Quebecor's Orlando division used the network to send images. They used "sneakernet."

"Everything was saved to magneto-optical disk and then carried, mailed or sent by courier to the destination," Wayman said.

That "solution" brought its own set of problems. "We couldn't always find the files we needed," Wayman said.

The use of MO disks also forced users to manually perform many time-consuming operations. For example, Wayman said that while the company's Hell 3800 scanner, from Linotype-Hell Co. in Haup-

Printing company solves a slew of problems by increasing transfer speeds on network.

pauge, N.Y., could write a TIFF file to an MO disk, the disk first had to be formatted in a proprietary manner. So the Macs couldn't read the disk without translators. To use the translation utilities created by Quebecor programmers, operators had to wait for the file to be read before they could run the utilities.

The translation time alone averaged 10 Mbytes per minute. And completing the page on the Mac, creating a PostScript file that the imagesetter could read and saving it to the MO disk took 45 minutes, during which time the Mac, and often its operator, was unable to do anything else.

18 hours a page

From the time work comes into the Quebecor division until it leaves for the printing plant it goes through more than 10 steps, including sizing and angling images, retouching operations, page assembly and proofing, and creating color separations.

It was taking the Orlando division 18 hours to complete a page. And the 30-Mac division needed to create 6,000 pages a year. "The system was labor intensive — required high maintenance and capital costs," said Bob D'Angelo, general manager at the division. It was not the best way to run a printing business.

Easier said than done

Wayman determined that a priority for the company was to make the work of moving files more efficient. "We had to centralize the files. To do that we needed to find a way to transfer files through the LAN at reasonable speeds," Wayman said.

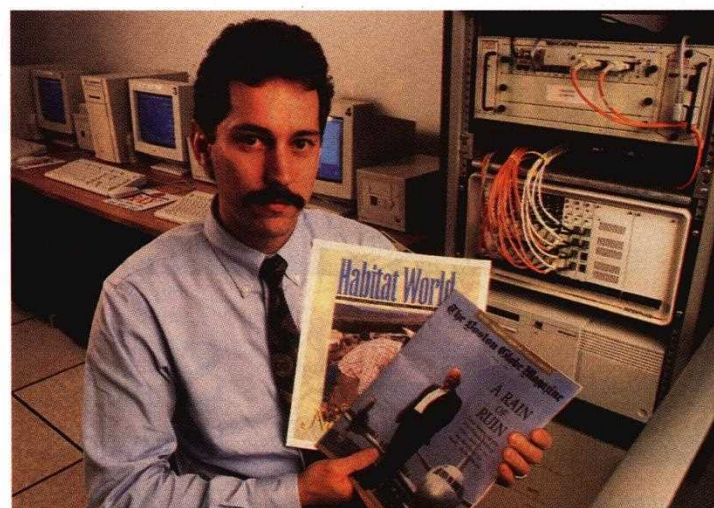
He experimented with an Ethernet box from Grand Junction Networks Inc., a server from Novell Inc., an Apple Workgroup Server and routers from 3Com Corp. on every station so that each had its own Ethernet line.

"No matter how we sliced it, Ethernet just didn't seem to work for us," he said. The division just couldn't ditch its MO-based procedures.

Finally, Wayman found MediaNet, a network file system from Sonic Solutions Inc. of San Rafael, Calif.

How it works

MediaNet is based on NuBus cards, which have on-board RAM, CPUs and operating



JOE SKIPPER / BLACK STAR

Tom Wayman, special projects manager for Quebecor Printing, experimented with several networks before deciding on Sonic Solutions' MediaNet.

systems that override AppleTalk and the Macintosh file system. Quebecor purchased five server cards, which contain 64 Mbytes of RAM each, and 15 client cards, with 4 Mbytes each. The software part of MediaNet includes two system extensions: Media Optimized File System and Media Optimized Transport Protocol. These allow files to be written to disk and sent over the network in large blocks. The system also bypasses the Mac's 4-Mbyte partition limit. The cards' on-board processors allow the network to achieve high data-transfer speeds without affecting the performance of the computers on the network.

So while Quebecor still has an Ethernet network, the MediaNet cards eliminate the bottlenecks that occurred at each Mac.

Wayman also purchased three Quadra 800s and connected each to 42-Gbyte RAID drives from Mega Drive Systems Inc. of Beverly Hills, Calif., and MediaNet running over fiber, copper, thin-net and 10BASE T lines. Five routers from 3Com are also incorporated in the system.

10 to 15 times faster

Wayman says that, according to his own benchmarks, files can now be accessed 10 to 15 times faster than with standard Ethernet. He said the total time to open files is

about 2 Mbytes a second with all the stations on line. Moving files from one server to another is even faster, averaging about 6 Mbytes per second.

The use of the LAN, which is now fast enough to handle large files, in place of sneakernet results in a host of advantages. Now the high-resolution images are scanned on the Hell scanner as before, but instead of outputting to an MO disk, the images are stored on the server. Multiple users can access the graphics simultaneously and build their pages. The files are then sent to the Aldus ColorCentral print server, then to a Rampage RIP and finally to an imagesetter. Because all the files are stored in a central location, there is no need for operators to wait for the Mac to create PostScript files or insert graphic images into files because those activities happen in the background. So while the actual time to complete many operations hasn't dropped, operator time has. "We're all a lot more efficient," D'Angelo said. When added up, the time it takes to create each page has dropped to 11 hours.

To Wayman, the bottom-line bandit, the major gain is how simple file transfer is now. "We no longer have to go through all those gyrations to get pages ready for printing," he said. □

Quebecor Printing Inc.

ORLANDO, FLA.

PROBLEM: Ethernet file transfer was too slow for large image files.

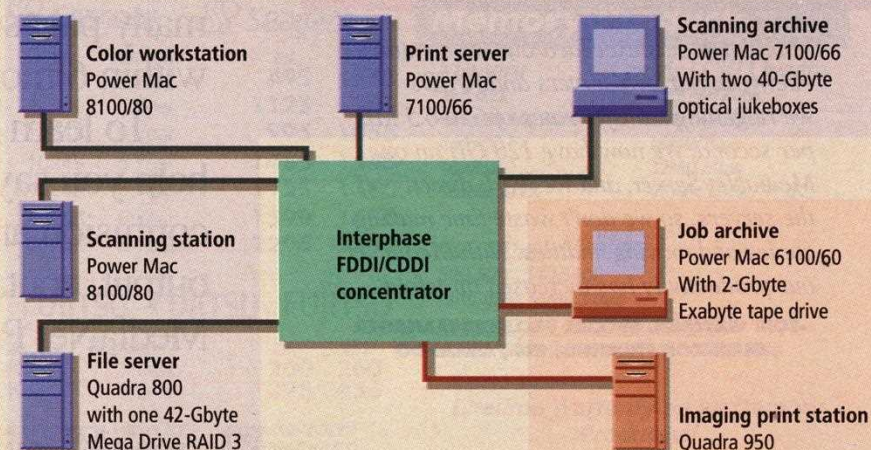
SOLUTION: Installing Sonic Solutions Inc.'s MediaNet networking system in addition to three RAID systems from Mega Drive Systems Inc.

RESULTS: Users no longer have to resort to "sneakernet." As a result, all files are in a central location accessible to everyone who needs them.

COST: \$180,000 for MediaNet cards (five server cards, 15 client cards), three RAID drives from Mega Drive Systems and five 3Com routers.

BENEFIT: Time it takes to complete a page is reduced from 18 hours to 11 hours.

Quebecor's FDDI/CDDI network



This is a simplified view of Quebecor's network. (There are many more workstations than pictured.) Each Mac server and client has the appropriate FDDI or CDDI client cards. These cards are responsible for boosting transmission speeds to a point that makes the network viable for the movement of large graphics.

MediaNet, the world's fastest prepress network, is going to help you say "Goodbye."

Goodbye, SneakerNet.

"We had been shuttling around 200 MO drives per month through our operation, and nobody can keep track of this number of shuttles. We couldn't back them up; we couldn't locate them. MediaNet lets us put all our files on a central server, and we always know the latest status of the file. With its price performance, MediaNet is the only game in town."

**-BRIAN FIELD, PREPRESS MANAGER
CONDE NAST, NEW YORK**

Goodbye, file copying.

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THE LAIRD GROUP, TORONTO**

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**-TOM WAYMAN, SPECIAL PROJECTS MANAGER
QUEBECOR PRINTING, INC., ORLANDO**

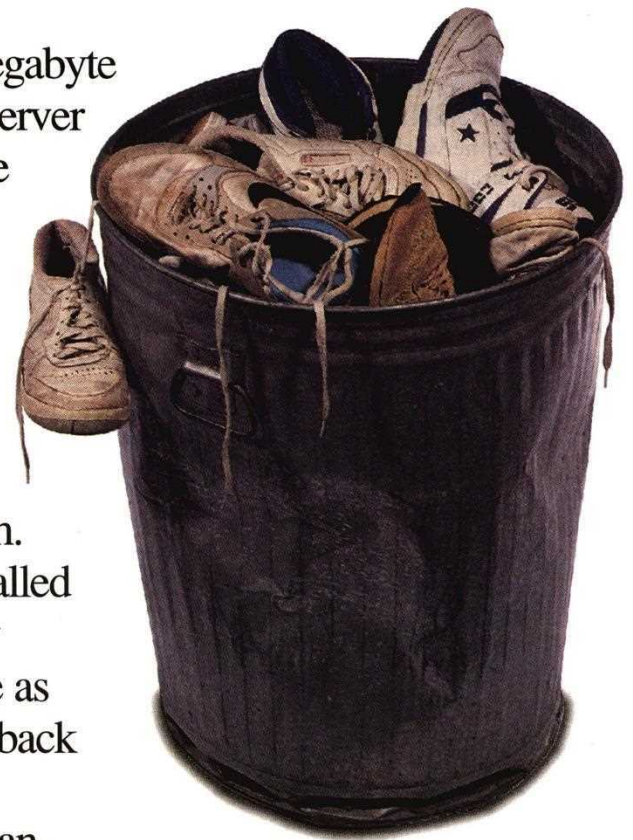
Sonic Solutions designed MediaNet specifically for high bandwidth imaging applications. That's why it's the only true network solution for prepress work groups.

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With MediaNet, a 100 megabyte file opens from a MediaNet server in 50 seconds, about the same as opening from the workstation's internal drive. A 50 MB PostScript file goes to the RIP in 45 seconds. And, multiple users can access files simultaneously without significant network slowdown.

Customers who have installed MediaNet report productivity increases of up to 30%, twice as many pages per day, and payback within 6 months!

To learn how MediaNet can help you say goodbye to prepress confusion and hello to increased output, contact your local MediaNet dealer or phone the MediaNet Product Hotline at Sonic Solutions: 415 485-4649.



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Toshiba QuadSpeed (3501)	360/420
220ms access time, 600Kb/sec transfer rate, 256K, 1 Year Warranty	
Toshiba QuadSpeed (5301)	340/380
120ms access time, 600Kb/sec transfer rate, 256K, 1 Year Warranty	
NEC 6Xe	na/595
150ms access time, 900Kb/sec transfer rate, 256K, 2 Year Warranty	
Plexor 4Plex	385/425
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These drives are ideal for AV and network backup due to their advanced linear recording technology and a highly accurate tape guide system. DLT allows you to backup 150 to 180 MB per minute. DLT is your high capacity high performance backup solution.

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Hewlett Packard 1.3GB 1716T	23.5ms	1 Year	2295
MaxOptics 1.3GB Tahiti III	18ms	1 Year	2395
Fujitsu 230MB M2512	30ms	1 Year	575

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NEW

Quantum Quantum Quantum

	Capacity	Seek	RPM	Cache	Warranty	Int.	Ext.
Lightning	365 MB	11 ms	4500	128K	2 Year	135	195
Trailblazer	420 MB	14 ms	4500	128K	3 Year	180	240
DSP3053	535 MB	9 ms	5400	512K	5 Year	220	280
Maverick	540 MB	14 ms	3600	128K	2 Year	185	245
Fireball	540 MB	11 ms	5400	128K	3 Year	195	255
Lightning	730 MB	11 ms	5400	128K	2 Year	250	310
Trailblazer	850 MB	14 ms	4500	128K	3 Year	255	315
Fireball	1080 MB	11 ms	4500	128K	3 Year	380	440
Capella	2.0 GB	8.5ms	5400	1024K	5 Year	765	825
Atlas Series	2.0 GB	8ms	7200	1024K	5 Year	895	955
Grand Prix	4200 MB	8.6 ms	7200	512K	5 Year	1075	1135
Atlas Series	4.3 GB	8ms	7200	1024K	5 Year	1495	1555

	Capacity	Size	Seek	Cache	Warranty	Int.	Ext.
Daytona	256 MB	Powerbook 2.5"	17 ms	128K	1 Year	215	275
Daytona	341 MB	Powerbook 2.5"	17 ms	128K	1 Year	295	355
Daytona	514 MB	Powerbook 2.5"	17 ms	128K	1 Year	375	435

5 Year Advance Replacement

MICROPOLIS MICROPOLIS

	Capacity	Access	RPM	Cache	Warranty	Int.	Ext.
M4221	2.1 GB	8.5 ms	7200	512K	5 Year	890	950
M4221Wide	2.1 GB	8.5 ms	7200	512K	5 Year	1080	1140
M1936	3.6 GB	11 ms	5400	512K	5 Year	1195	1295
M3243	4.3 GB	8.5 ms	7200	512K	5 Year	1295	1355
M3243Wide	4.3 GB	8.5 ms	7200	512K	5 Year	1475	1535
M1991	9.0 GB	12 ms	5400	512K	5 Year	2190	2290
M1991Wide	9.0 GB	12 ms	5400	512K	5 Year	2295	2395

Direct to Disk Recording AV Drives- BEST for Music and Video Storage

M4221AV	2.1 GB	8.5 ms	7200	512K	5 Year	945	1005
M1936AV	3.6 GB	11 ms	5400	512K	5 Year	1245	1345
M3243AV	4.3 GB	8.5 ms	7200	512K	5 Year	1395	1455
M1991AV	9.0 GB	12 ms	5400	512K	5 Year	2240	2340
M4221WideAV	2.1 GB	8.5 ms	7200	512K	5 Year	1135	1195
M3243WideAV	4.3 GB	8.5 ms	7200	512K	5 Year	1595	1655
M1991WideAV	9.0 GB	12 ms	5400	512K	5 Year	2495	2595

NEW

MICRODISK LT 3.5" Stackable Disk Subsystems, Super Capacity External Storage

MDAV2100	2.1 GB	8.9 ms	7200	512K	5 Year	Call for the most	
MDAV4300	4.3 GB	8.9 ms	7200	512K	5 Year	competitive pricing	

SPRING SPECIALS

Quantum 365MB.....	Int. \$135	Ext. \$195
Lightning 365, 4500RPM, 11ms seek, 128K cache, 2 year warranty		
Quantum 535MB.....	Int. \$220	Ext. \$280
DSP3053, 5400RPM, 9ms seek, 512K cache, 5 year warranty		
Quantum Trailblazer 850MB.....	Int. \$255	Ext. \$315
QTB850, 4500RPM, 14ms seek, 128K cache, 3 year warranty		
Quantum Fireball 1.0GB.....	Int. \$380	Ext. \$440
QFB1080, 4500RPM, 11ms seek, 2 year warranty		
Micropolis 2.0GB.....	Int. \$890	Ext. \$950
M4221, 7200RPM, 9ms seek, 5 year warranty		
Seagate Barracuda 4.0GB.....	Int. \$1485	Ext. \$1545
ST15150N, 7200RPM, 8ms seek, 5 year warranty		
Micropolis 9.0GB.....	Int. \$2190	Ext. \$2290
M1991, 5400RPM, 12ms seek, 512K cache, 5 year warranty		

Seagate Seagate Seagate Seagate

	Capacity	Seek	RPM	Cache	Warranty	Int.	Ext.
Hawk 2LP	1.2 GB	ST31230N	9ms	512K	5 Year	495	555
Hawk 4	4.2 GB	ST15230N	9ms	512K	5 Year	1125	1185
Barracuda 2LP	2.5 GB	ST32550N	8ms	1024K	5 Year	995	1055
Barracuda 4	4.2 GB	ST15150N	8ms	1024K	5 Year	1485	1545
Barracuda 2Wide	2.5 GB	ST32550Wide	8ms	1024K	5 Year	1125	1195
Barracuda 4Wide	4.2 GB	ST15150Wide	8ms	1024K	5 Year	1590	1650
Elite 9	9.0 GB	ST410800N	11ms	1024K	5 Year	2295	2395

FUJITSU FUJITSU FUJITSU FUJITSU FUJITSU FUJITSU

	Capacity	Seek	RPM	Cache	Warranty	Int.	Ext.
M2684	530 MB	9ms	4500	256K	3 Year	200	260
M1606SA	1.2 GB	9ms	4500	512K	3 Year	395	455



	Capacity	Access	RPM	Cache	Warranty	Int.	Ext.
C3724SE	1.2 GB	9.5 ms	5400	512K	5 Year	475	535
C3725SE	2.4 GB	8.5 ms	6300	512K	5 Year	895	955

Lowest Prices!



Capacity	Seek	RPM	Int.	Ext.
88 MB SQ5110C	20 ms	3200	285	345
200 MB SQ5200	18 ms	3200	405	465
270 MB SQ3270	13.5 ms	3200	405	465

2 Year Warranty on all SyQuest Drives.
SyQuest drives come complete with 1 cartridge (Formatted or Unformatted) and the latest SCSI 4.3 compatible software



Capacity	Model	Warranty	Price
44 MB	SQ400	5 year	\$41
88 MB	SQ800	5 year	46
105 MB	SQ310	5 year	50
200 MB	SQ2000	5 year	74
270 MB	SQ327	5 year	61

SCSI-2 Accelerators

Atto Silicon Express 2 525

SCSI 1 & 2 support, transfer rates up to 10.0 MB/sec, supports multiple block sizes, takes advantage of parallel processing capability by transferring data directly between the Mac RAM and the SCSI bus! Ideal for graphic design, multimedia applications, software design, and more!

Silicon Express 4 895

Fast/Wide (16Bit) SCSI-2 accelerator card for Apple's NuBus based computers. Supports Fast/Wide SCSI 2 (16 Bit) transfer rates up to 20MB/sec., and fast SCSI-2 (8 Bit) transfer rates up to 10MB/sec. Full 16 Bit WIDE support for the latest drives and disk arrays. Fully compatible with all existing SCSI-1 drives. Formatting software is included. 5 Year Warranty.

Express PCI 375

Single channel, RISC based, PCI to Fast/Wide SCSI-3 accelerator card for Apple's NuBus based computers. Ideal solution for your audio, video, prepress, and real time applications. Transfer rates up to 20MB/sec. Formatting software is included. 5 Year Warranty.

Remus RAID Software Call

Need speed? Double it with Remus Limited software... Ideal for AV applications. Call for details... Remus Full software also available.

Tape Backup Drives



Capacity	Model	Media	Int.	Ext.
20 GB	35470	4mm	\$935	\$985
3-5 GB	35480	4mm	1105	1150
4-10 GB	1533A	4mm	1235	1295
20-50 GB	1553A	4mm	3495	3595

Exabyte

Capacity	Model	Media	Int.	Ext.
2-5 GB	8205XL	8mm	\$1395	\$1485
7-14 GB	8505XL	8mm	2130	2190

Dat drives include 1 piece of media and Retrospect Software

DeskTape TM
Allows you to mount your DAT on the desktop. Backing up your data is as easy as drag and drop!

ProDirect always suggests that our customers backup their hard drives. In the event of hard drive failure, be assured and back up your data with quality tape backup drives from Hewlett Packard and Exabyte.

Memory Products

Memory	Centris, LCIII, Quadra
2x8x80	4MB 60/70ns
4x8x80 60/70ns	8MB 60/70ns
4x8x80 FX	16MB 70ns
16x8x80 Low Profile	32MB 60ns
16x8x80 FX	VRAM 256K/512K

Powerbook Memory

520, 520C, 540, 540C
4MB, 8MB, 16MB, 32MB
140, 170, 160, 165C, 180, 180C, Duo
4MB, 6MB, 8MB, 10MB, 12MB, 14MB, 20MB

Lifetime Warranty on all Memory Products!!

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GREAT VALUE!

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- ✓ Great internal match with Power Macs and Quadras
- ✓ Outstanding speed and reliability
- ✓ 5-year warranty

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Internal configuration

APS Q 1.0

- ✓ 7200 spindle speed for outstanding performance
- ✓ 5-year warranty

\$699⁹⁵

Internal configuration

APS Q 1080

- ✓ Lowest price per MB among 1GB drives
- ✓ 5400 spindle speed for great performance
- ✓ 3-year warranty



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- ✓ Perfect for graphics and layout users
- ✓ 800,000 hour MTBF ensures product reliability
- ✓ 5-year warranty

\$549⁹⁵

Internal configuration

APS PORTABLE DRIVES

Model	Capacity	Internal	**AC ONLY
APS Q 341 ¹	326MB	\$299 ⁹⁵	N/A
APS Q 514 ¹	491MB	379 ⁹⁵	N/A
APS T 504 ¹	504MB	379 ⁹⁵	\$479 ^{95*}
APS T 800 ¹	773MB	599 ⁹⁵	699 ^{95*}

* AC/DC available for \$50.00 extra

**SR 1000 AC only enclosure

APS DESKTOP DRIVES

Model	Capacity	Internal	SR2000
APS Q 540 ³ Quantum 540 Fireball mechanism	516MB	\$189 ⁹⁵	\$269 ⁹⁵
APS Q 730 ² Quantum 730 Lightning mechanism	699MB	219 ⁹⁵	299 ⁹⁵
APS Q 840 ³ Quantum 840 Trailblazer mechanism	811MB	249 ⁹⁵	349 ⁹⁵
APS Q 1080 ³ Quantum 1080 Fireball mechanism	1042MB	389 ⁹⁵	489 ⁹⁵
APS MS 1.0 ⁵ Micropolis 4210 Mechanism	1001MB	549 ⁹⁵	649 ⁹⁵
APS ST 1.0 ⁵ Seagate ST 31230N Hawk mechanism	1010MB	499 ⁹⁵	599 ⁹⁵
APS Q 1.0 ⁵ Quantum Atlas XP31070 mechanism	1025MB	699 ⁹⁵	799 ⁹⁵

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APS HIGH-CAPACITY DRIVES

Model	Capacity	Internal	SR2000
APS MS 2.0 ⁵ Micropolis 4221 mechanism	1955MB	 \$899 ⁹⁵	\$999 ⁹⁵
APS MS 2.0AV ⁵ Micropolis 4221AV mechanism	1955MB	999 ⁹⁵	1099 ⁹⁵
APS ST 2.0 ⁵ Seagate ST 32550N Barracuda	2047MB	999 ⁹⁵	1099 ⁹⁵
APS Q 2.0 ⁵ Quantum Atlas XP32150 mechanism	2050MB	 899 ⁹⁵ 	999 ⁹⁵
APS MS 4.0 ⁵ Micropolis 3243 mechanism	4064MB	 1299 ⁹⁵ 	1399 ⁹⁵
APS MS 4.0AV ⁵ Micropolis 3243AV mechanism	4064MB	1399 ⁹⁵ 	1499 ⁹⁵
APS ST 4.0 ⁵ Seagate ST 15150N mechanism	4094MB	 1499 ⁹⁵	1599 ⁹⁵
APS Q 4.0 ⁵ Quantum Atlas XP34300 mechanism	4101MB	1399 ⁹⁵	1499 ⁹⁵
APS MS 9.0 ⁵ Micropolis 1991 mechanism	8669MB	2199 ⁹⁵ 	* 2399 ⁹⁵
APS MS 9.0AV ⁵ Micropolis 1991AV mechanism	8669MB	2299 ⁹⁵ 	* 2499 ⁹⁵
APS ST 9.0 ⁵ Seagate ST410800N mechanism	8669MB	 2299 ⁹⁵ 	* 2499 ⁹⁵

APS MS 2.0

- ✓ Best performance 2GB drive
- ✓ Optimized for workstations and servers
- ✓ 5-year warranty

APS Q 2.0

- ✓ 1MB cache makes it great for RAID systems
- ✓ Great price/performance value
- ✓ 5-year warranty



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Internal Configuration

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Model	Capacity	RAID Level	Price
ARRAID S2/5400 ⁵	2GB	0 (Striped)	\$1299 ⁹⁵
ARRAID M1/7200 ⁵	1GB	1 (Mirrored)	1599 ⁹⁵
ARRAID S2/7200 ⁵	2GB	0 (Striped)	1599 ⁹⁵
ARRAID M2/7200 ⁵	2GB	1 (Mirrored)	2399 ⁹⁵
ARRAID S4/7200 ⁵	4GB	0 (Striped)	* 2399 ⁹⁵
ARRAID S8/7200 ⁵	8GB	0 (Striped)	* 3299 ⁹⁵
ARRAID 58/7200 ⁵	8GB 	5 (Parity)	* 4999 ⁹⁵

* Silicon Express II fits Macs with full SCSI NuBus slots.

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- Full Height cases include SCSI Sentry FREE!
- 1-5 Denotes length of manufacturer's warranty in years
- * External case is special Full Height only

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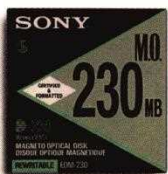
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External configuration

APS MO DRIVES

Model	SR2000
APS 230MB MO ² New Lower Pricing!	\$499⁹⁵
APS 1.3GB MO ¹ New 4MB cache	\$1699⁹⁵

1-5 Denotes length of manufacturer's warranty in years



Sony MO Media	1-9	10+
128MB cartridge	\$28.95	\$25.95
230MB cartridge	38.95	35.95
1.3GB cartridge	88.95	85.95

Prices listed are for unformatted media

APS SYQUEST DRIVES

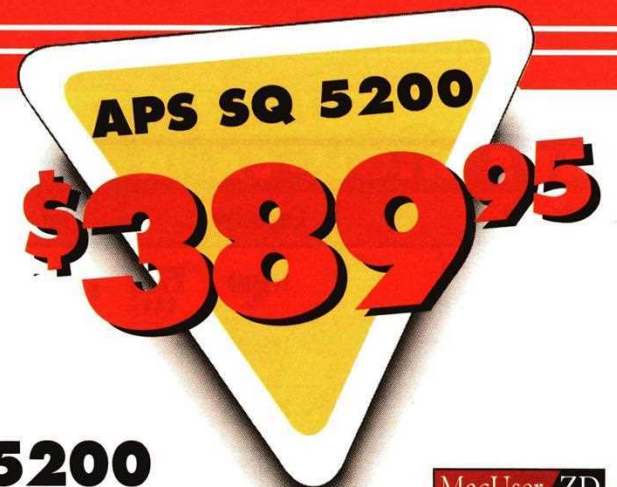
Model	Capacity	SR2000
APS SQ 3270 ²	255MB	\$399⁹⁵
APS SQ 5200 ²	194MB	\$389⁹⁵

1-5 Denotes length of manufacturer's warranty in years



SyQuest Media	Price
SQ-400 (44MB)	\$44.95
SQ-800 (88MB)	51.95
SQ-2000 (200MB)	77.95
SQ-310 (105MB)	58.95
SQ-327 (270MB)	64.95

Prices listed are for unformatted media



APS SQ 5200

- ✓ Reads, writes and formats 44, 88 and 200MB cartridge
- ✓ Ultimate storage flexibility
- ✓ 2-year warranty

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APS CD-ROM DRIVES

Model	SR2000
APST 3601 ¹ QUAD-SPEED	\$349⁹⁵

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APS T 3601

- ✓ Easy loading tray...eliminates CD-ROM caddies
- ✓ Average seek time of 102.5 ms
- ✓ Supports sustained reads as high as 580KB per second

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External configuration

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- ✓ 2-year warranty

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External configuration

Maxell 4mm Media	1-9	10+
60-Meter	\$7.99	\$7.49
90-Meter	9.99	9.49
120-Meter	20.99	19.49
4mm Head Cleaner	11.95	9.95

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APS DLT40

- ✓ Holds up to 40GB with hardware compression
- ✓ Incredible backup speed and reliability
- ✓ Includes Retrospect v 2.1 FREE!
- ✓ 2-year warranty

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External configuration

DLT Media 1-4

	5-9
DLT20 Data cartridge	\$45.95
DLT20 3PK cartridges	119.95



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& HYPERTAPE DRIVES

APS TAPE DRIVES

Model	Capacity	Internal	SR2000
APS HyperQIC ²	2GB*	—	\$499 ⁹⁵
APS DAT ²	2GB*	\$649 ⁹⁵	699 ⁹⁵
APS ProDAT ²	4GB*	849 ⁹⁵	899 ⁹⁵
APS HyperDAT ²	8GB [†]	949 ⁹⁵	999 ⁹⁵
APS DLT40 ²	40GB [†]	—	5999 ⁹⁵

*Actual data compression and tape capacity vary greatly depending on the type of data recorded, other system parameters and environment.

[†] 2:1 Hardware data compression.

♦ Native capacity without data compression.

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- All external drive products and cases come with a premium 25 x 50 SCSI cable.
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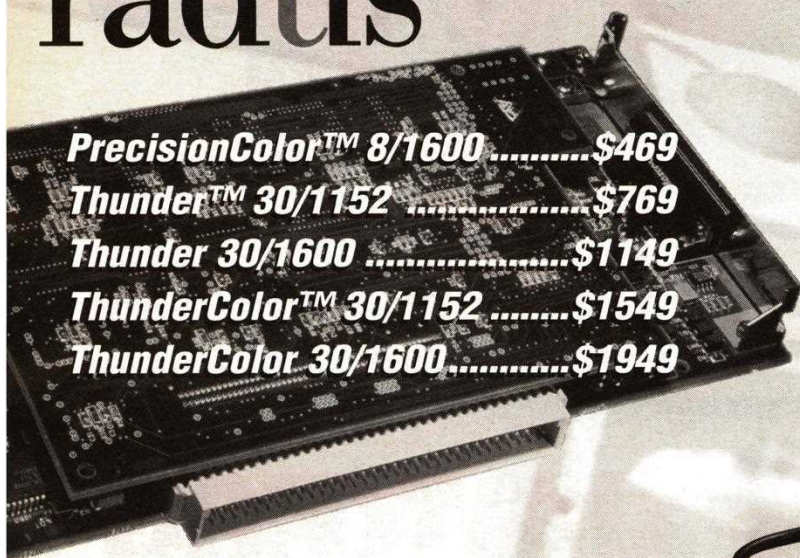
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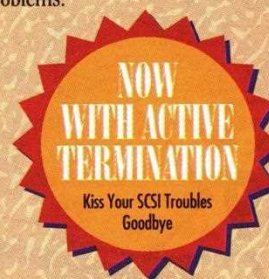


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Capacity	Model No.	Mechanism	Size	Seek	RPM	Warranty	Internal	PHASER-I
365 MB	DT-365LT	Quantum	3.5"	11 ms	4500	2 yrs	\$139	\$215
540 MB	DT-540LT	Quantum	3.5"	11ms	4500	2 yrs	\$195	\$270
730 MB	DT-730LT	Quantum	3.5"	11 ms	4500	2 yrs	\$229	\$305
1.0 GB	DT-1080FB	Quantum	3.5"	9.5 ms	7200	5 yrs	\$449	\$525
1.05 GB	DT-31230	Seagate	3.5"	9.0 ms	5400	5 yrs	\$515	\$595
2.0 GB	DT-4221	Micropolis	3.5"	8.5 ms	7200	5 yrs	\$895	\$970
2.0 GB	DT-32150	Quantum	3.5"	8.0 ms	7200	5 yrs	\$999	\$1,075
2.0 GB	DT-2490	HP	3.5"	9.0 ms	6400	5 yrs	\$1,099	\$1,175
2.1 GB	DT-32550	Seagate Barracuda	3.5"	8.0 ms	7200	5 yrs	\$989	\$1,065
2.1 GB	DT-32550W	Seagate Barracuda Wide	3.5"	8.0 ms	7200	5 yrs	\$1,075	\$1,190
4.3 GB	DT-3243	Micropolis	3.5"	8.5 ms	7200	5 yrs	\$1,395	\$1,470
4.3 GB	DT-15150	Seagate Barracuda	3.5"	8.0 ms	7200	5 yrs	\$1,465	\$1,540
4.3 GB	DT-15150W	Seagate Barracuda Wide	3.5"	8.0 ms	7200	5 yrs	\$1,550	\$1,699
4.3 GB	DT-4280	Quantum GP	3.5"	8.0 ms	7200	5 yrs	\$1,159	\$1,235
9.0 GB	DT-1991	Micropolis	5.25"	12 ms	5400	5 yrs	\$2,195	\$2,295
9.0 GB	DT-410800	Seagate Elite 9	5.25"	11 ms	5400	5 yrs	\$2,215	\$2,315

AUDIO/VIDEO TUNED HARD DRIVES

Capacity	Model No.	Mechanism	Size	Seek	RPM	Warranty	Internal	PHASER-I
1.05 GB	DT-31230AV	Seagate	3.5"	9 ms	5400	5 yrs	\$515	\$595
2.0 GB	DT-4221AV	Micropolis	3.5"	8.5 ms	7200	5 yrs	\$945	\$1,020
2.1 GB	DT-32550AV	Seagate Barracuda	3.5"	8.0 ms	7200	5 yrs	\$989	\$1,065
4.3 GB	DT-3243AV	Micropolis	3.5"	8.5 ms	7200	5 yrs	\$1,445	\$1,520
4.3 GB	DT-15150AV	Seagate Barracuda	3.5"	8.0 ms	7200	5 yrs	\$1,465	\$1,540
9.0 GB	DT-1991AV	Micropolis	5.25"	12 ms	5400	5 yrs	\$2,245	\$2,345
9.0 GB	DT-410800AV	Seagate Elite 9	5.25"	11 ms	5400	5 yrs	\$2,215	\$2,315

SyQUEST

INCLUDES ANUBIS
FORMATTING SOFTWARE
AND ONE CARTRIDGE

Capacity	Model No.	Internal	PHASER-I
88 MB	SQ5110C	\$305	\$365
200 MB	SQ5200	\$420	\$480
270 MB	SQ3270	\$420	\$470

TAPE

INCLUDES A FREE
COPY OF RETROSPECT
AND ONE TAPE

Capacity	Model No.	Format	PHASER-I
2 GB	HP-35470	4mm	\$995
4-8 GB	Sony-5000	DDS-2	\$1,165
4-8 GB	HP-1533A	DDS-2	\$1,360
5-10 GB	Exabyte-8505	8mm	\$2,275
10-20 GB	DLT-2000	DLT	\$3,599

OPTICAL

INCLUDES ANUBIS
FORMATTING SOFTWARE
AND ONE CARTRIDGE

Capacity	Model No.	Seek	PHASER-I
230 mb	Fujitsu	30 ms	\$675
1.3 GB	HP-C1716	23 ms	\$2,099
1.3 GB	Maxoptix T-III	18 ms	\$2,199

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INCLUDES SOFTWARE

JVC Personal Archiver (2X)	\$1,699
Call about 4X drives.	
Make Your Own CDs!	
Includes Software and Cabling	

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The Micropolis 2.0 GB with a 8.5 ms seek
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(Internal Configuration)

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Capacity	Model No.	Raid Level	External
2.0 GB	DT-31200-2AR	0, 1	\$ Call
4.0 GB	DT-32550-2AR	0, 1	\$ Call
8.0 GB	DT-15150-2AR	0, 1	\$ Call

These drives are perfect for Videovision.

MEDIA

Type	Price	Type	Price
Syquest 44	\$42	Optical 128 MB	\$26
Syquest 88	\$48	Optical 230 MB	\$30
Syquest 105	\$54	Optical 1.0 GB	\$100
Syquest 200	\$76	Optical 1.3 GB	\$95
Syquest 270	\$60		

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Mac User
★★★★
February 1995

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365MB



\$139

Internal Fireball
C109 1202

\$369
1.0GB

MacOS COMPATIBLE

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2.5" DAYTONA DRIVES

MacOS COMPATIBLE
341MB DAYTONA 17ms
514MB DAYTONA 17ms



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Internal
Q030 1002
Q030 1041
Q030 1002



\$249
\$349

C109 1119
C109 1109

\$369
\$469

MacOS COMPATIBLE

Incredibly Low Price

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4.3GB

7200 RPM

\$1099



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Internal Grand Prix
C109 1159

Seagate

MacOS COMPATIBLE

Seagate **5 YEAR WARRANTY**

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Unformatted Capacity	Model	Description	Part No.	Internal	Part No.	External
2.4GB	32430N	Hawk 2 LP	C109 2211	\$859	C109 2112	\$919
4.3GB	15230N	Hawk 4	C109 2212	\$1099	C109 2113	\$1159
2.5GB	32550N	Barracuda 2 LP	C109 2203	\$969	C109 2109	\$1029
4.3GB	15150N	Barracuda 4	C109 2207	\$1499	C109 2106	\$1559

5.25" FULL HEIGHT

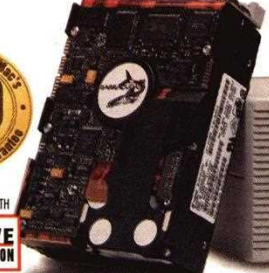
9.1GB	410800N	Elite-9	C109 2110	\$2499
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BARRACUDA 4
8.5ms average seek time

4.3GB
7,200 RPM



\$1499

Internal Barracuda
C109 2207

hp HEWLETT PACKARD

HP SureStore Disk 1000S+ and 2000LP



Internal HP
C109 1208

\$379

- FEATURES
- 3.5-inch low-profile format
 - Up to 9.5ms average seek time
 - 5,400 RPM rotational speed
 - 800,000 hours MTBF

5 YEAR WARRANTY

NOW SHIPPING WITH **ACTIVE TERMINATION**

Capacity	Model	Model Number	Part Number	Internal	Part Number	External
1.0GB	SureStore 1000S+	C3724	C109 1208	\$379	C109 1209	\$439
2.0GB	SureStore 2000LP	C3725	C109 1210	\$769	C109 1211	\$829

DAT AND OPTICAL STORAGE

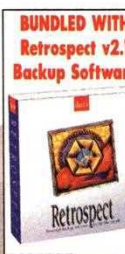
ClubMac Tape Backup Drives

C109 5011

\$699

DDS-1
2.0GB

FREE DAT TAPE



\$899

C109 5010

DDS-2
4-8GB

MacOS COMPATIBLE

NOW SHIPPING WITH **ACTIVE TERMINATION**



One Year Warranty

ClubMac 5.25" OLYMPUS 1.3GB

- 5.25" Olympus Optical Mechanism
- 29ms ave. seek time
- 3,500 RPM rotational speed



1.3GB

\$1499



NOW SHIPPING WITH **ACTIVE TERMINATION**

CLUBMAC 3.5" OLYMPUS 230MB

- 3.5" Olympus Optical Mechanism
- 29ms ave. seek time
- 4,200 RPM rotational speed

C109 5020

\$579

230MB

MacOS COMPATIBLE

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Verbatim.



SONY

DAT MEDIA

V010 1018	Verbatim 90M Cartridge	\$12
S100 1012	Sony 90M Cartridge	\$12
V010 1043	Verbatim 120M Cartridge	\$29
S104 1008	Sony 120M Cartridge	\$29

OPTICAL MEDIA

V010 1021	Verbatim 1.3GB Optical Cartridge	\$85
S100 1005	Sony 1.3GB Optical Cartridge	\$85
V010 1012	Verbatim 230MB Optical Cartridge	\$39
S100 1008	Sony 230MB Optical Cartridge	\$39

STORAGE MEDIA



GENUINE SYQUEST CARTRIDGES

Part Number	Media	Qty 1	Qty 10	Qty 20
S198 1010	44MB	\$43ea	\$42ea	\$41ea
S198 1011	88MB	\$48ea	\$47ea	\$46ea
S198 1012	200MB	\$76ea	\$74ea	\$72ea
S198 1013	105MB	\$51ea	\$50ea	\$49ea
S198 1014	270MB	\$62ea	\$61ea	\$60ea

* Warranty after first year, handled by SyQuest.

MONITORS

NEC

21" MultiSync XE21

- 21" diagonal flat square technology
- Mac Res: 640 x 480 NI
- Energy star compliant for true energy savings
- 19.8" Viewable image size
- Fine 0.28mm dot pitch
- Monitor Manager
- AccuColor, Digital controls

21" XE21 (N026 1010) \$1829

21" XP21 (N026 1011) 2199



\$399*

15" MultiSync XV15

Outstanding performance at an affordable price

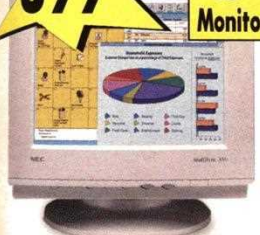
- Larger sharper images that are easier to use
- Plug and Play compatible for real performance advantages
- Energy star compliant for true energy savings
- 15" diagonal flat square technology
- 13.8" Viewable image size
- Mac Res: 1024 x 768 NI
- Fine 0.28mm dot pitch

14" XV14 (N026 1016) \$319

15" XV15 (N026 1015) \$399*

15" XE15 (N026 1006) \$549

15" XP15 (N026 1005) 599



\$759

17" MultiSync XV17

Large Screen performance at an affordable price

- Perfect for entry level business, small office/home office, home education/entertainment
- Fine 0.28mm dot pitch
- FullScan capability
- 17" diagonal flat square technology
- 15.6" Viewable image size
- Mac Res: 1024 x 768 NI
- PC Res: 1280 x 1024 NI
- On-Screen Manager

17" XV17 (N026 1022) \$759

17" XP17 (N026 1009) 1049



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MONITORS

R016 1013	PressView 21T Display System (P21T02) 21" Trinitron, 640 x 480 to 1600 x 1200	\$3099
R016 1016	SuperMatch 21-T XL Trinitron (ST02102) 21" Trinitron, 1600 x 1200	\$2075
R016 1009	IntelliColor Display/20e (0461) 20" Trinitron, 640 x 480 to 1600 x 1200	\$1899
R016 1007	PrecisionColor Display/17 (0460) 17" Trinitron, 640 x 480 to 1600 x 1200	\$959
R016 1030	PrecisionView 17 (R01705) 17" Trinitron, 1024 x 768	\$899

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R013 1018	VideoVision Studio 2.0 (0500) Compatible with the PowerMac 8100	\$3699
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100MHz

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- ONE Year Warranty

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- LED light, headphone jack and RCA jacks
- ChorusMac's CD AutoCache driver software
- ONE Year Warranty

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4 X 8 X 70NS I/II/X UPGRADE	..151
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4 X 8 X 80NS I/II/X UPGRADE	..149
4 X 8 X 80NS MEMORY UPGRADE	..138
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ZIP DRIVE.....	\$199
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HP LASERJET 4V	..2040
HP LASERJET 4MV	..2968
HP LASERJET 4SI	..3135
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EPSON

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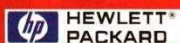
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NEC	730MB	3.5"	11MS	4090	\$ 239	\$ 299
CONNER CFP1080S	1.2GIG	3.5" LP	9MS	5400	\$ 455	\$ 515
HITACHI DK326c-10	1.0GIG	3.5"	9MS	6300	\$ 435	\$ 495
FUJITSU M1606s	1.2GIG	3.5" LP	10MS	5400	\$ 415	\$ 475
Seagate ST31230N	1.2GIG	3.5" LP	9MS	5400	\$ 485	\$ 545

1.7GIG - 9GIG

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BRAND/MODEL	CAPACITY	SIZE	ACCESS	RPM	INTERNAL	EXTERNAL
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Conner CFP2105S	2.1GIG	3.5" LP	9MS	5400	\$ 835	\$ 895
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Seagate Barracuda 2	2.5GIG	3.5" LP	8MS	7200	\$ 1055	\$ 1115
Seagate Barracuda 2W	2.5GIG	3.5" LP	8MS	7200	\$ 1189	\$ 1249
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Seagate ST15230N	4.3GIG	3.5"	9MS	5400	\$ 1155	\$ 1215
Conner CFP4207S	4.2GIG	3.5"	9MS	7200	\$ 1239	\$ 1299
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Grand Prix XP34301s	4.3GIG	3.5"	8.6MS	7200	\$ 1089	\$ 1149
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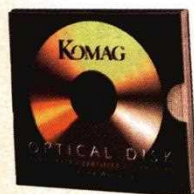
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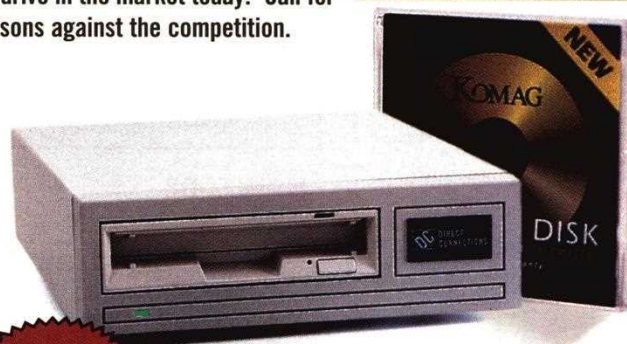
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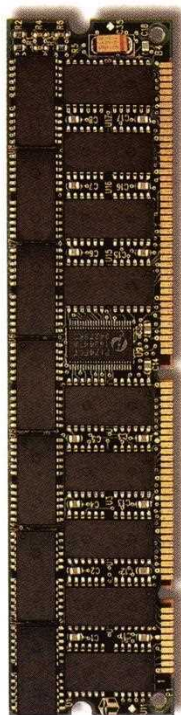
CAPACITY	MODEL	MEDIA	INTERNAL	EXTERNAL
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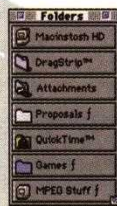
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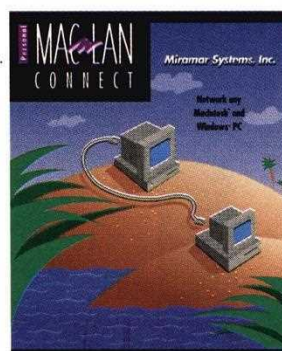
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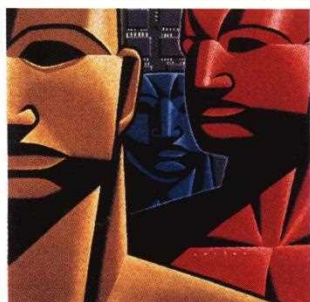
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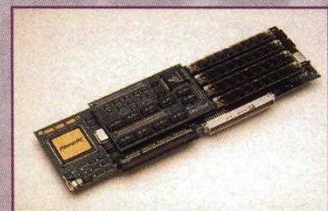
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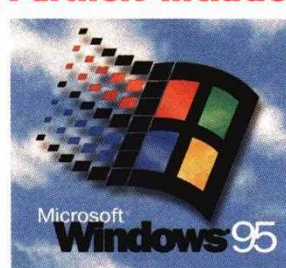
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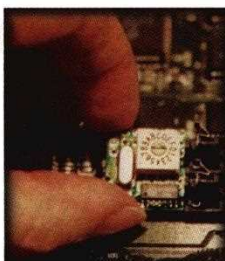
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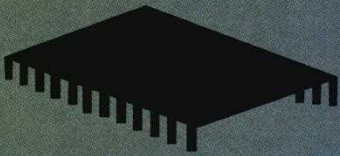
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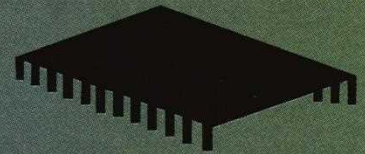
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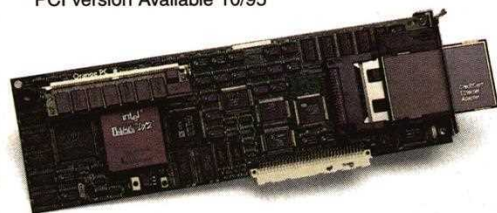
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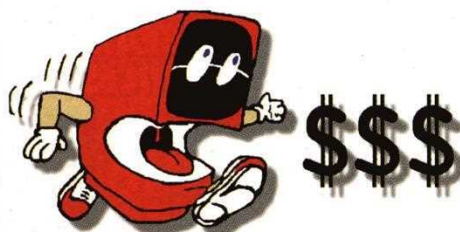
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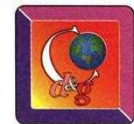
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730MB	10ms	\$215	\$275	\$300
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1.4GB	9.5ms	\$659	\$719	\$744
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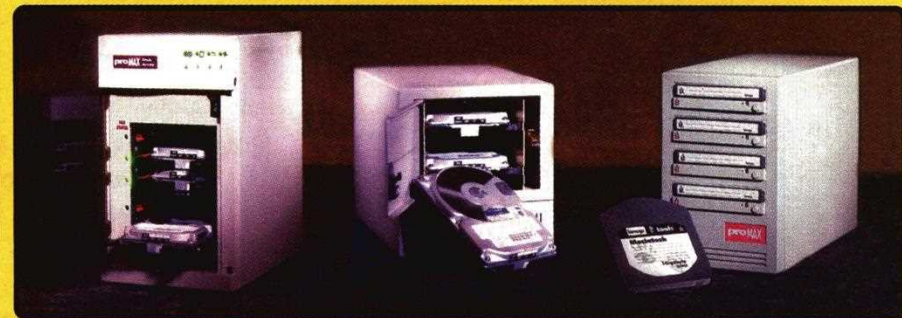
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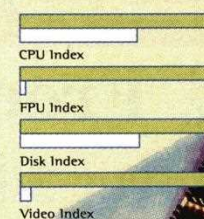
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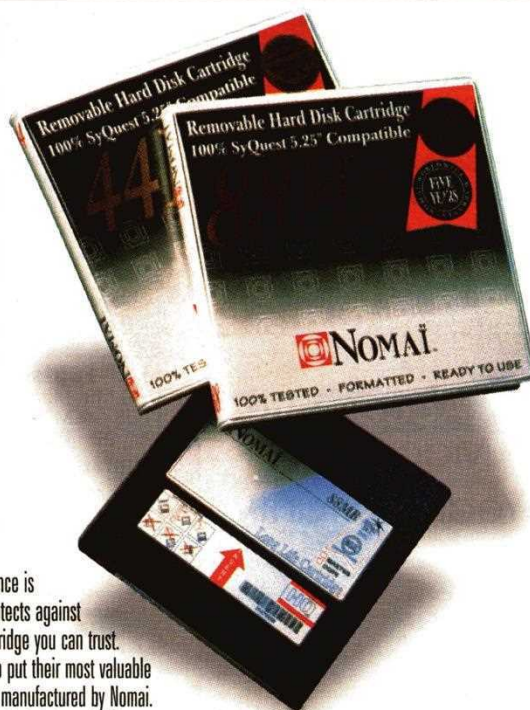
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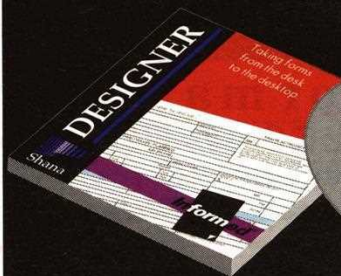
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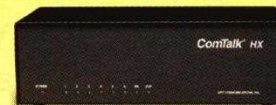
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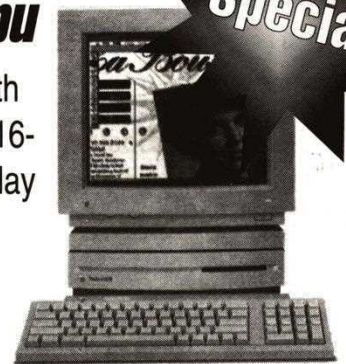
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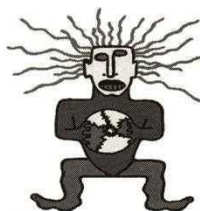
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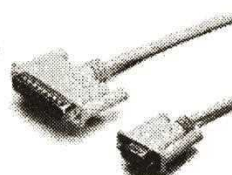
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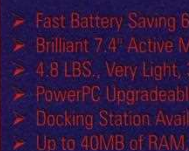
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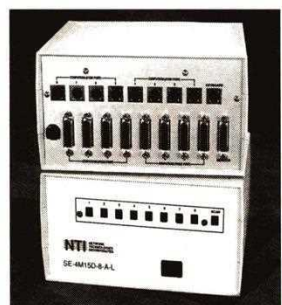
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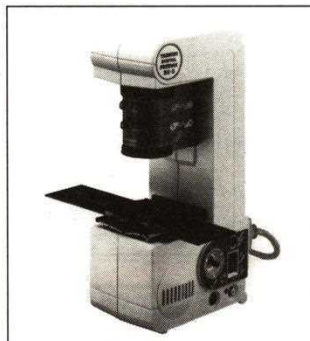
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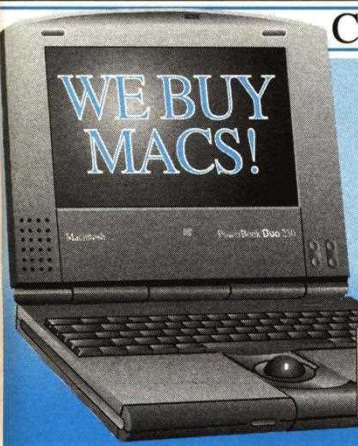
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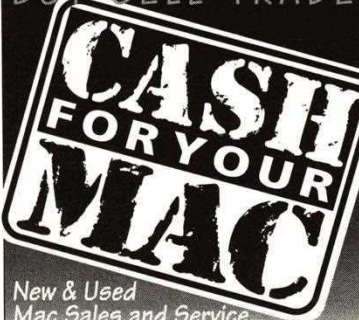
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Server

From Page 1

port many platforms: IBM Corp.'s AIX 4; Novell Inc.'s NetWare for PowerPC; and a high-performance Mac OS-based sequel to AppleShare code-named FutureShare (see story below). For hardware, the company had its NuBus-based Workgroup Servers, unannounced servers derived from the PCI Macs, a new server code-named Shiner and plans for systems based on the Common Hardware Reference Platform (CHRP).

Challenged by a string of product delays, sources said, Apple is struggling to clarify a strategy that may have missed its window of opportunity. The company originally planned to ship its new server line long ago. NetWare for PowerPC is now reportedly on track for release this fall, but Shiner and AIX are not expected until early next year.

Buffeted by doubts and company reorganizations, the projects have been canceled and reborn many times. Sources said no project has been canceled entirely; all still enjoy some level of funding.

Perhaps Apple's most innovative server project is Shiner, a high-end piece of iron that will provide multiprocessing, hot-swappable disk drive bays with RAID Level 5 storage and copious expansion slots. This dream of a server comes with one large caveat: It will not run the Mac OS, only AIX or NetWare.

Apple originally expected the new box, when running NetWare for PowerPC, to trounce

Intel-based NetWare servers. However, it is reportedly clear from recent tests that Apple's NetWare will deliver less performance than planned. And in the time it has taken to complete the NetWare-for-PowerPC port, the Intel-standard servers have improved to the point where the two platforms have approached parity in terms of speed.

Many Mac network users have less complex needs. Those customers reportedly told Apple they are unwilling to adopt NetWare or AIX and have demanded instead that Apple continue to support and improve Mac OS-based servers.

Sources said Apple's answer to that requirement will be FutureShare, the next generation of AppleShare, which will deliver at least 50 percent better performance than current versions. Once migrated to PCI-based Workgroup Servers, the new software will reportedly be even faster, though FutureShare's power will not be fully realized until Apple retools Open Transport for greater performance.

And out on the horizon a storm is brewing that could blow apart what remains of Apple's pre-FutureShare plans: CHRP. Provo, Utah-based Novell has publicly committed to supporting CHRP servers with NetWare for PowerPC.

The question: If Apple delivers Shiner with NetWare early next year, will customers adopt it knowing a variety of less-expensive CHRP machines may be only a

few months away? Will Apple end up with an exciting, expensive server platform no one wants?

Apple could ship NetWare for its current NuBus and PCI Workgroup Servers late this year or early in 1996. While this would keep costs low, the performance of such a box might not be enough to overcome support issues surrounding a server that does not run the Mac OS.

Making things worse for Shiner, sources said, is its lack of a champion to carry it through the company. Some within Apple are reportedly leaning toward the company cutting its losses and sticking with FutureShare, a well-known commodity, and CHRP, a potentially strong industry standard, and finding another company to take on Shiner.

Apple-branded AIX may have an even less secure future, sources said. Apple would prefer to wait for CHRP, but high-end publishing customers want Unix badly. Since publishing is an Apple stronghold, the company reportedly feels compelled to offer these customers file servers that are more powerful than those running on Unix today.

Lost and seemingly forgotten in the mix is PowerOpen, the committee Apple originally committed to and co-sponsored, to help define standards for Unix running atop PowerPC. Over time, Apple has stopped talking about the consortium, and sources said PowerOpen no longer plays a role in Apple's plans.

Apple declined to comment. □

Windows 95 From Page 1

communications advances belatedly match the feature list of the Mac. Thus, the hurdles facing the average worker in a multiplatform world will be much lower once Windows 95 becomes accepted and learned. Likewise, a requirement for a cross-platform in-house support staff will be easier to fulfill.

But that staff will be busy because the limits of Windows reinvention appear everywhere: DOS path names in error messages, old LAN drivers and utilities that fail to load, and user-interface glitches in older programs.

Microsoft said it felt it had to maintain backward compatibility with the vast bulk of Windows 3.1 software and systems. Indeed, the requirement that Windows 95 run on a wider range of hardware was the company's justification for delaying the OS release into August. But as a result, Windows 95 is laden with some fishy-smelling elements from its earlier OSes.

For instance, the central role of text files in controlling the PC's configuration is much reduced and well-hidden in Windows 95. But on upgraded Windows 3.1 machines, the existing settings are maintained, so config.sys is gone but not forgotten. We found that eliminating the vestiges of old settings took hours; we fear those users on networks will never be free of the clutches of config.sys.

The combination of backward compatibility and Microsoft's other OS efforts means that for many years to come, PC support staff and managers will have to inhabit several different worlds: the fleet of un-upgradable Windows 3.1 machines, new machines that come with Windows 95 pre-installed, Windows 95 upgrades atop existing hardware and software — definitely the worst hassle — and Windows NT for mission-critical PCs and technical workstations.

This ocean of all-Windows OS systems is anything but a benefit. Just because these OSes have some common origins does not mean they work together harmoniously. After the release of Windows 95 and the concomitant growth of Windows NT, the PC market will never return to the platform consistency it has today.

This is the strongest argument for Mac managers bucking a pro-Windows culture. The Mac's history of integration is a dollars-and-cents advantage over Windows. Whatever the advantages of a tabula rasa Windows 95 setup, the differences will soon become apparent in the real world of the PC installed base.

Microsoft's primary defense

against the ensuing confusion is its admirable addition of hooks for centrally controlled user profiles and policies and a systems management server. These are great features, but the large sites that really need them already have them. Based on what we've seen, more sites will need them in the future, but that's not a good thing because it means things are getting much more complicated.

The Mac and its third-party products sailed through the transition to the Power Mac much more smoothly than the Windows world will move to Windows 95. That's a point worth mentioning to PC managers burning the midnight oil in coming months. And looking forward, Apple's plans for Copland — a PowerPC-only OS that severely restricts the freedom of system extensions — requires more of a clean break with the past than Microsoft was willing to stomach.

And therein lies the biggest lesson of Windows 95 for Mac managers: Beware of wishing for a major OS upgrade that ensures backward compatibility; you may get what you asked for. □

VRAM slotted for new Macs

By James Staten

Peripheral Outlet Inc. last week shipped video RAM upgrades for Apple's new line of PCI-based Power Macs.

Priced at \$99, Peripheral's 1-Mbyte VRAM DIMMs (dual in-line memory modules) are designed for use in the Power Mac 7200, 7500 and 8500. The Power Mac 7500 and 8500 come standard with 2 Mbytes of VRAM. Two 1-Mbyte VRAM DIMMs must be installed together on these models.

The Power Mac 7200 comes with 1 Mbyte of VRAM and can be upgraded to 2 or 4 Mbytes.

Next week, Peripheral will ship 2-Mbyte VRAM cards for use with the Apple Accelerated PCI Graphics Card bundled with the Power Mac 9500/120 or ATI Technologies Inc.'s XClaim/GA graphics board. Each product ships with 2 Mbytes of VRAM. Pricing for the modules has not been set.

With 4 Mbytes of VRAM installed, these machines can display 24-bit images at resolutions of up to 1,152 by 870 pixels and 16-bit images at 1,280 by 1,024 pixels.

Peripheral Outlet Inc. of Ada, Okla., is at (405) 332-6581 or (800) 879-0105; fax (405) 436-2245; peripheral@applelink.apple.com. □

Bright future ahead for AppleShare

With every new revision to AppleShare, cynics have said: "That's all, folks. There's no way Apple can squeeze any more performance out of the aging product." Each time, however, Apple has swept back its cape and pulled an even faster product out of its hat.

For its next trick, Apple plans to introduce a Mac OS-based AppleShare follow-on, code-named FutureShare, that improves the speed, administration and flexibility of today's server software. Sources said the new software should ship within three months of OpenDoc, which is currently expected in time for the New Year.

Today's AppleShare 4.1 runs only on PowerPC-based Apple Workgroup Servers, despite containing no native PowerPC

code. FutureShare will reportedly sport a combination of native code and improved server caching that will boost performance by at least 50 percent over today's Mac server.

Its other big improvement is OpenDoc support. Sources said third-party vendors will be able to swap out some FutureShare components for others, and users will be able to add entirely new features to the server without Apple's involvement. The idea is similar to the NLM (NetWare Loadable Module) architecture that Novell Inc. uses for its servers, which developers have used to introduce backup utilities, new platform support and improved security.

Currently, writing even basic add-ons for AppleShare is a challenge, and Apple's server API has

made it impossible to add whole classes of features programmers might want to develop.

Sources said Apple has also redesigned the server's interface to make it even easier to administer. It is likely that later FutureShare revisions will take advantage of PowerShare catalogs, so administrators will not be forced to maintain two sets of user databases for mail and file service.

Even with all these improvements, FutureShare still faces a major obstacle: it runs on top of an emulated File Manager, which significantly limits its performance. This issue will not be resolved until Apple delivers a new File Manager in the Mac OS, which, most likely, will not be until the company ships Copland.

Apple declined to comment. — By Robert Hess



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Availability *From Page 1*

"It's not going to get any better before the end of the year," said a Mac buyer for a large East Coast distributor. "Apple will lose a lot of back-to-school sales and may miss out on Christmas sales."

Sources said the chip shortage could become more widespread once Apple ships its PowerPC 603e-based PowerBooks and entry-level Power Macs this fall. Supplies of the 603e are said to be skimpy.

An Apple spokeswoman said the company is aware of the supply problem and is taking steps to pump up production. She said it has increased its inventory of parts by about \$400 million, to \$1.3 billion.

Apple Chief Financial Officer Joseph Graziano said the company is on track to build about 30 percent more units this quarter

than its previous quarter; manufacturing capacity will grow 50 percent year-to-year for the fourth calendar quarter. However, based on the current demand, that won't be enough to fill all orders, Graziano admitted.

Through June 30, Apple had amassed about \$1 billion in unfilled orders, a record amount twice its level in spring of 1994. That backlog, which translates to about 500,000 machines, does not include orders for the new PCI-based Macs.

"No matter how optimistic Apple is in its forecasts, it always underestimates customer demand for hot new products," said Pieter Hartsook, editor of the Hartsook Letter in Alameda, Calif. "However, if Apple has to have a problem, \$1 billion in back orders is better than \$1 billion in [unsold product] inventories." □

VST

From Page 1

Perhaps the most unusual offering will be the AIRplex Mac, a wireless, infrared modem that connects to existing phone lines. AIRplex is reportedly a Type II device that will fit in the PCMCIA slots built into PowerBook 5300-series laptops. It will also work in the slots of the forthcoming 68LC040-based PowerBook 190, due in October, and the PCMCIA Expansion Module for PowerBook 500-series machines.

The modem will communicate with an infrared base station that fits over a standard RJ-11 telephone jack. The two pieces will use diffuse infrared signals that do not require a direct line of sight. Connections can extend over 50 feet in rooms up to 1,000 square feet, sources said. No special software will be required for

the modem; to the OS it will appear as a standard PCMCIA modem.

AIRplex Mac will provide full-duplex 14.4-Kbps throughput for both data and fax. Sources said a 28.8-Kbps version is expected in January.

VST will also enter the storage realm with removable fixed hard drives for the upcoming laptops. The drives will replace the machines' floppy drives. VST's drives will use mechanisms from several manufacturers and come in 540-Mbyte, 810-Mbyte and 1.2-Gbyte capacities. Sources said the units will be hot-swappable and mount to the desktop within three seconds of insertion. They will have an average access time of less than 15 milliseconds, support data transfer burst rates of more than 5 Mbytes per second and have an MTBF (mean time between failure) of 150,000 hours.

Each drive will come with a utility developed by VST that will format the units, as well as PCMCIA, internal PowerBook and external SCSI storage de-

vices. The utility will also create partitions and password protect volumes.

VST has additional plans for the PowerBook expansion bay: a power adapter that fits inside the opening. The Expansion Bay 5000 Power Adapter will be a "brick"-style power pack that provides either AC or AC/DC power support. While it won't entirely unshackle users from the wall, it will increase mobility picking up the "ball" while leaving the "chain." Users will be able to use it externally when the expansion bay is in use, sources said.

Finally, VST will ship an external battery charger for the 5300 series that will function similarly to its Charger 500 used with PowerBook 500-series laptops (see MacWEEK, Oct. 10, 1994, Page 26). The VST Charger 5000 will power two batteries at a time and support both the lithium-ion and nickel-metal-hydride cells used in the new line.

Sources said pricing has not been set for any of the products.

VST declined to comment. □

Acrobat *From Page 1*

Acrobat 2.1 will let users embed URLs (universal resource locators) into Portable Document Format, or PDF, files. With the included WebLink plug-in, users will be able to enter the URL of any World-Wide Web page, PDF on the Web or other Internet document the same way they would create links within PDFs. This change is in sync with the agreement between Adobe and Netscape Communications Corp. to include the Acrobat Reader technology in a forthcoming version of Netscape's popular Web browser, expected to ship at year-end.

Adding a time-based dimension to the PDF format, Acrobat 2.1 will include a Movie tool, a plug-in that lets users place multimedia elements such as QuickTime movies, AVI video and audio files into documents created with Acrobat.

Acrobat Catalog 2.1, available for the Mac for the first time, will create full-text indexes of all PDFs on a server, hard drive or CD-ROM. Catalog was previously available only on the Windows platform.

Also new to Acrobat is OLE 2.0 support, which will let users embed PDFs in documents made by other OLE-savvy applications, such as Lotus Notes and Microsoft Word and Excel.

A new product to be released with the 2.1 upgrade will let publishers create fully searchable cross-platform CD-ROMs of PDF-based information. Acrobat Search, to be sold on a per-title basis, will include special versions of Acrobat Reader with full-text search capabilities.

Analysts who follow Acrobat

and competing electronic document technologies say that the market segment is a peculiar one. While it is part of a trend away from paper and toward universal delivery, it is not a substantial revenue source by any standard.

According to Dataquest Inc. of San Jose, Calif., the platform-independent document exchange market for 1994 was worth a meager \$23 million. Its projected growth rate is 9.2 percent annually, which would build the market up to \$36 million in 1999.

Dataquest senior analyst Jennifer Mitchell said direct income from Acrobat is not likely to be Adobe's main concern because the company has emphasized making electronic documents from content created in its other products. "The Acrobat line is very strategically important to Adobe regardless of its revenue because it is likely to maintain the life of products like PageMaker well into the future," she said.

John Dawes, Adobe product marketing manager for Acrobat, said: "[The electronic document delivery market] was a new market when we introduced Acrobat, and it is still new. ... The biggest

thing we need to do is get people to understand why they would publish electronically."

To this end, Adobe is funneling resources into Acrobat to establish PDF as an Internet delivery standard. Adobe said it hopes to follow its Netscape agreement with similar deals with other browser companies and on-line services. AT&T Corp. last week said it will use Acrobat in its forthcoming Internet-access products.

Acrobat Exchange 2.1, which includes Reader, Exchange, PDF Writer Driver, Adobe Type Manager and 14 Type 1 fonts will be \$195; upgrades from Acrobat 2.0 will be \$29. Acrobat Pro 2.1, which includes the Exchange Package plus Acrobat Distiller, will be \$595; upgrades from 2.0 will be \$89. Acrobat for Workgroups, including a 10-user license for the Exchange 2.1 package plus one license each of Distiller and Catalog will be \$1,595; upgrades from 2.0 will cost \$199. Catalog 2.1 will sell separately for \$500. Acrobat Reader will continue to be free.

Adobe Systems Inc. of Mountain View, Calif., can be reached at (415) 961-4400 or (800) 272-3623; <http://www.adobe.com>. □

IBM readying U.S. RAM plant

To help alleviate the growing worldwide RAM shortage, IBM Corp. and Toshiba Corp. announced this month that they will combine resources to build a memory-chip plant in the United States.

The proposed factory, expected to cost \$1.2 billion, will be located in Manassas, Va., on IBM land and will initially manufacture 64-

Mbit memory chips, some of which will be earmarked for use in personal computers. IBM said the factory will generate more than 1,000 chips per month.

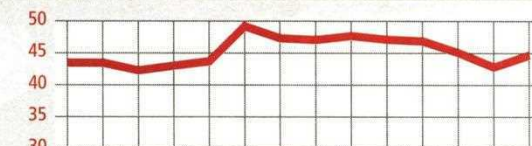
Set to start production in late 1997, the factory will employ 1,200.

IBM and Toshiba previously joined forces on a plant for flat-panel displays in Japan. □

StockWatch

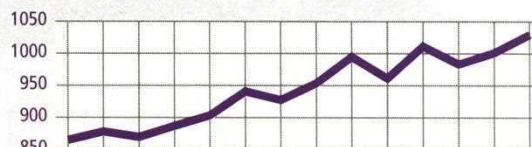
APPLE STOCK

08/17/95:
44.63



NASDAQ

08/17/95:
1029.24



MACWEEK COMPOSITE

08/17/95:
366.40



	08.17.95 CLOSE	WEEKLY % CHANGE		08.17.95 CLOSE	WEEKLY % CHANGE
Apple	44.63	4.39	PERIPHERALS VENDORS		
MacWEEK			AmeriQuest	2.00	6.67
Composite*	366.40	3.82	Asanté	7.13	29.55
SOFTWARE DEVELOPERS			Focus	3.81	38.64
Adobe	62.75	6.81	Global Village	15.38	9.82
Caere	10.50	-4.55	HP	83.88	10.91
CE Software	2.25	5.88	QMS	5.13	17.14
Graphsoft	8.38	-1.47	Radius	8.25	-10.61
Intuit	89.75	1.41	RasterOps	6.88	-12.70
Macromedia	49.75	11.17	Shiva	50.25	0.00
Microsoft	99.13	5.31	Tektronix	48.13	4.05
Novell	21.00	15.86	DISTRIBUTORS		
Oracle	43.19	4.70	CompUSA	36.63	4.64
Saber	12.50	12.36	IE	12.38	3.13
Symantec	31.63	9.05	Merisel	6.25	-3.85
STORAGE			Tech Data	12.75	-1.92
Conner	14.25	8.57	INDUSTRY INDICATORS		
Imomega	27.88	0.45	Compaq	54.25	4.58
Maxtor	4.82	2.67	IBM	113.63	4.12
Pinnacle	22.00	3.53	Intel	65.63	2.14
Quantum	26.88	10.82	Motorola	77.25	2.49
Seagate	48.38	9.94	SGI	44.00	12.10
SyQuest	18.88	4.14	NASDAQ	1029.24	2.86

*The MacWEEK Composite is calculated by adding the stock prices of the following companies: Apple, Adobe, Asanté, Caere, CE Software, Global Village, Intuit, Macromedia, Radius, RasterOps, Shiva and SyQuest. Source: Nordby International Inc.

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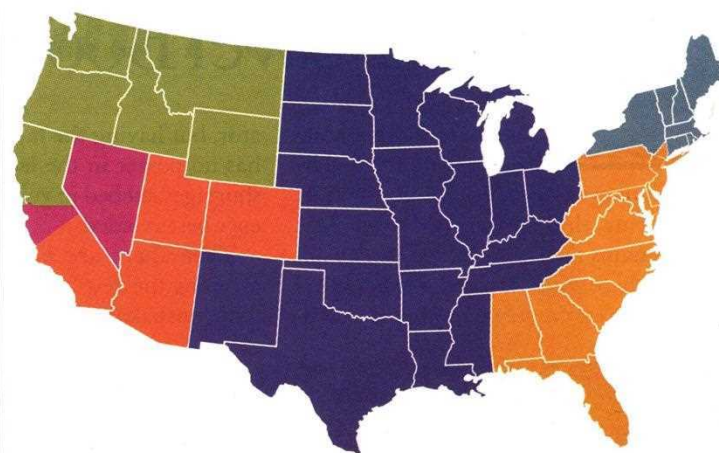
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Are PowerBooks taking a last lap?

There are those among us who were startled by the various events of the most recent week. Discovering that owning a Power Mac 7500 remains the stuff of dreams may not rank up there with the passing of a cultural icon or the retirement of another U.S. sen-

ator, but having the fact that your money has no power in the land of Apple CPU shortages rubbed in your face is an experience best avoided.

Then there are those of us who are awaiting the new 5300-series PowerBooks with unshakable optimism that the new

PowerPC laptops won't be afflicted by Apple's inscrutable product forecasting techniques. Proof, as it were, that dreams die hard.

Regardless of whether or not you have faith that your money is good enough to buy one of the next round of PowerBooks,

the Knife arrived with news that might shake the faith of the truest believers. Looking past this year's introductions into the murkiness of 1996, the Knife discovered that the line of PowerBooks designed to follow the 5300 series is not to be, ever.

No future at all

You may be familiar with these machines, code-named Argonaut and Nautilus. Their recent obliteration raises the obvious question of what Apple will build instead. But that's a question you may wish the Knife hadn't asked because credible sources say Apple is pursuing nothing in their place, leading some to draw the conclusion that Apple may be getting out of the laptop business altogether.

I am in control

People watchers are always eager to hear the latest Apple reorg news, and the Knife counts himself as a member in good standing of that group.

Those faced with the new assignment as head honchos of Apple's Advanced Technology Group have no doubt discovered responsibility comes with some unpleasantness. Chief among those is the knowledge that their debut has coincided with a disturbingly large number of layoffs in that department.

Considering that in light of recent edicts dictating ATG spend more time figuring out how to make its experiments actually generate revenue and less time making Macs fly, reasonable people could conclude that the usually untouchable ATG may be in for even more big changes.

Perhaps the victims of Apple's random swipe of the layoff knife (ahem) should drop by Radius, where a couple of key execs fell off the company letterhead late last week.

Windows international

Microsoft may want to control the world, but India may have to stand as the exception to Microsoft's rule.

It seems officials in that country discovered that the Windows 95 time zone map doesn't correctly display the borders for the northern region of Kashmir. Having already warred with Pakistan over this very point, the Indian government didn't hesitate to rattle its economic sabers in Microsoft's direction, immediately threatening to ban all sales of Windows 95 in India along with everything else with a Microsoft logo.

This would even include Mac Word 6.0.1, which shows exactly how serious India views this affront. Since mollifying India's concerns involves changing only a few pixels, a settlement between two of the planet's important powers should be devised in short order.

This is, unless the company makes more money in Pakistan. □

Threats of war won't persuade the Knife to part with one of his MacWEEK mugs, but a decent rumor might turn out to be effective. Find out for sure at (415) 243-3544, fax (415) 243-3561, AppleLink (MacWEEK) or CompuServe/ZiffNet/Mac.

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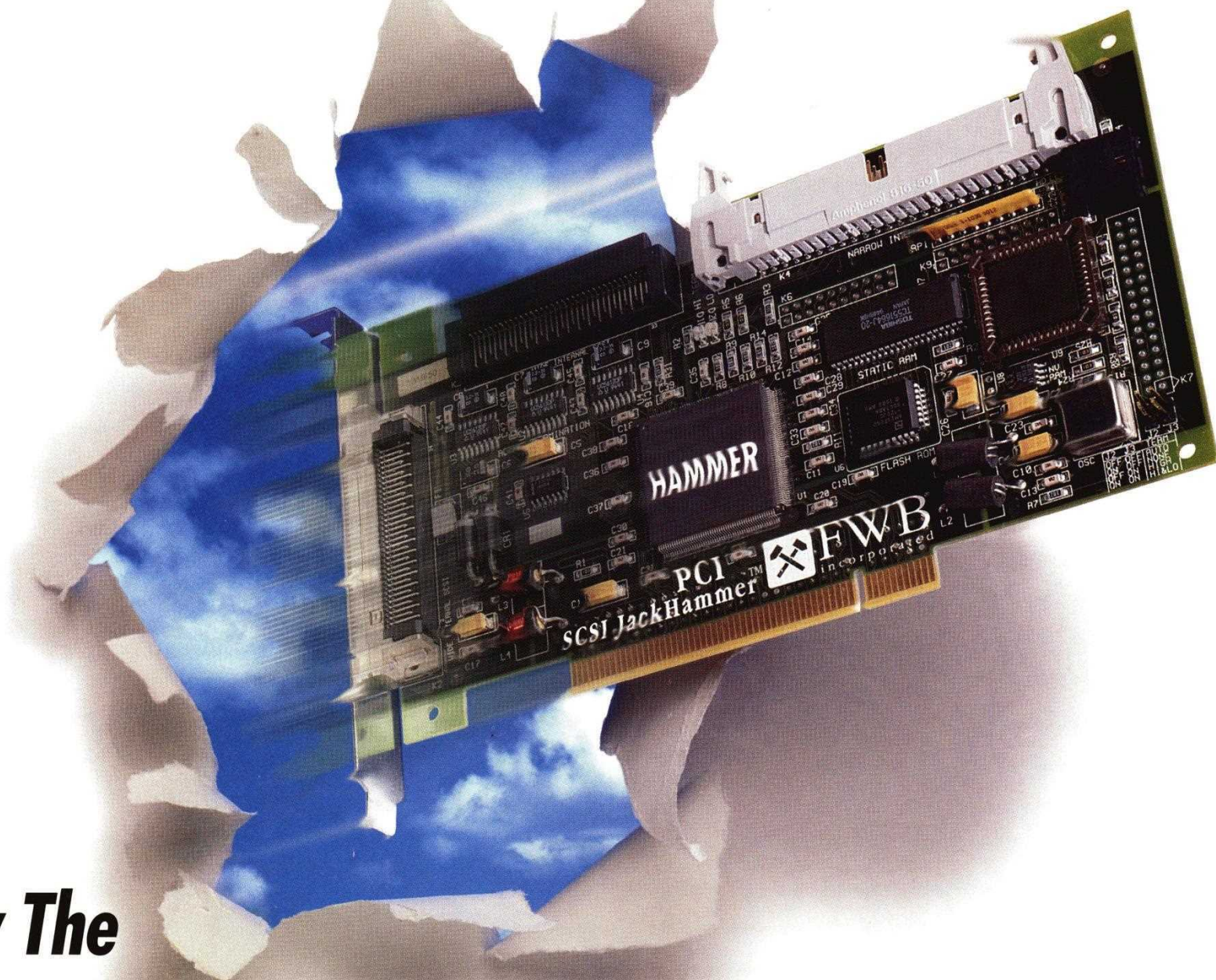


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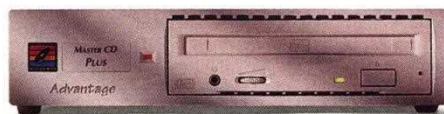
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